

# 9471-ET(G)

## Intrinsically Safe Gigabit Ethernet 4 Port Serial Gateway

- **Intrinsically Safe ATEX / IECEx Certification**
- **4 Communication Ports - RS232/TTL/485/422 (2 & 4 Wire)**
- **Serial Modbus Protocol**
- **Dual Port Switch 10/100/1000Mbps LAN (daisy-chain capability)**
- **LAN to Serial**
- **Modbus/TCP ⇔ Modbus/RTU (or ASCII) Protocol**
- **Compact dimensions (W: 42 x H: 160 x D: 140 mm)**
- **Ex ia IIB T4 Ga, [Ex ia Da] IIIC (non-mining), Ex ia I Ma (M1 mining).**
- **Ta = -40°C to +70°C**
- **Zone 1 / Zone 21 mounting (Zone 0 / Zone 20 with a suitable Ex ia Power Supply)**



**The 9471-ET(G) is an Intrinsically Safe (IS) Ethernet to Serial 4 Port Communication Module** suitable for Zone 1 / Zone 21 mounting, (Zone 0 / Zone 20 with a suitable Ex ia Power Supply).

The Module allows existing Intrinsically Safe equipment with an RS485/RS422 or RS232/TTL port to become **Ethernet Enabled** via a Cat5e/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 2x RJ45 (LAN) ports that support 10/100/1000 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 either LAN port- This requires the PoEx output to be wired to the Supply Input terminals by the user.

Note: PoEx not available on Gigabit versions

The compact and cost effective design makes it the ideal choice for many applications:

<b>Petrochem -</b>	Process Monitoring, Legacy Systems...
<b>Mining -</b>	Underground Communication Links, Machine Monitoring, Legacy Systems....

Electrical connections are via cage-clamp and/or screw type plug/socket terminals along with RJ45 type connectors for the Ethernet LAN ports.

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## SPECIFICATION

### Power supplies

12VDC IS Power Supply Input or  
PoEx™ (Power over IS Ethernet)  
Typically 12V @ 150mA (Inrush < 400mA)  
Ui = 15.4V  
9492-PS recommended

### Ethernet

Intrinsically Safe 10/100/1000Base-T

### Connector

RJ45 (x2)

### 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

### Location of Unit

Zone 1, IIBT4 hazardous area (9471-ETG)  
Zone 1, IICT4 hazardous area (9471-ET)

### Certification Code

Ex ia IIBT4 Ga (9471-ETG)  
Ex ia IICT4 Ga (9471-ET)  
[Ex ia Da] IICT135°C (non-mining)  
Ex ia I Ma (M1 mining)  
Ta = -40°C to +70°C

### Certificate numbers

CML 19ATEX2414X  
IECEX CML 19.0150X  
IECEX ExTC 20.0019X

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	42mm
Height	160mm
Depth	140mm
Weight	1500g
Mounting	Din Rail

## LED INDICATORS

	OFF	FLASH	ON
PWR (green)	Power Fail	N/A	Power OK
WDG (red/green)	Fault	Green- Healthy (10Hz)	Fault
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
RJ45 1000 (green)	10/100Mbps	N/A	1000Mbps

## DATA & POWER TERMINALS

### Power & External LEDs (CON1)

Pin	Function	Pin	Function
1	Power In +12V#	2	Power In 0V#
3	LAN1 PoEx +12V#	4	LAN1 PoEx 0V#
5	LAN2 PoEx +12V#	6	LAN2 PoEx 0V#
7		8	
9		10	
11	0V	12	0V
13	LAN1 LED	14	LAN2 LED
15	COM1 LED	16	COM2 LED
17	COM3 LED	18	COM4 LED

#Connect LAN1 OR LAN2 PoEx terminals to Power In terminals to use this function  
- LEDs wire between LED terminal and 0V (no resistor required)

### LAN (RJ45) 10/100/1000 BASE-T Ethernet

Pin	10/100 Function	Gigabit Function
1	Tx +	BI_DA+
2	Tx-	BI_DA-
3	Rx +	BI_DB+
4	PoEx +12V*	BI_DC+
5	PoEx +12V*	BI_DC-
6	Rx-	BI_DB-
7	PoEx 0V*	BI_DD+
8	PoEx 0V*	BI_DD-

\*PoEx not available on Gigabit ports

### PORT 1 & 2 (CON3) RS485/422/232/TTL Ports

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

### PORT 3 & 4 (CON4) RS485/422/232/TTL Ports

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

## ORDERING INFORMATION

Part Number	Description	Comments
<b>9471-ETG</b>	<b>4-Port Serial Gateway (Gigabit)</b>	<b>Standard</b>
9471-ET	4-Port Serial Gateway (10/100 PoEx)	Special Order

**Note: Special order items may incur a minimum order quantity**



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