9471-ET(G)

Intrinsically Safe Gigabit Ethernet 4 Port Serial Gateway

- **Intrinsically Safe ATEX /UKEX/ IECEx / North America ($MET_{c/US}$) approvals**
- **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:

Petrochem -	Process Monitoring, Legacy Systems...
Mining -	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.

Powering Business Worldwide

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SPECIFICATION

Power supplies
12VDC IS Power Supply Input or
PoEx™ (Power over IS Ethernet)
Typically 12V @ 150mA (Inrush < 200mA)
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] IIICT135°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
CML 21UKEX21072X

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	Transmititng 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
9471-ETG	**4-Port Serial Gateway (Gigabit)**	**Standard**
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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