Technical data
MTL industrial network solutions

August 2023
EPS 9475-ET(G) Rev 5

# 9475-ET(G)

## Intrinsically Safe Gigabit Ethernet Dual Port Media Converter Switch

- **Intrinsically Safe ATEX / UKEX / IECEx Certification / North America ($MET_{c/US}$) approvals**
- **Dual 1310nm Fibre-Optic Ports (10Km)**
- **CPU Management Feature**
- **Dual Port Switch 10/100/1000Mbps LAN (daisy-chain capability)**
- **Fibre-Optic Repeater Mode with 2 Local LAN Ports**
- **Compact dimensions (W: 42 x H: 160 x D: 140 mm)**
- **Ex ia op is IIB T4 Ga, [Ex ia Da] IIIC (non-mining), Ex ia op is I Ma (M1 mining).**
- **Ta = -40ºC to +70ºC**
- **Zone 1 / Zone 21 mounting (Zone 0 / Zone 20 with a suitable Ex ia Power Supply)**


**The 9475-ET(G) is an Intrinsically Safe (IS) Dual Port Media Converter Module** suitable for Zone 1 / Zone 21 mounting, **(Zone 0 / Zone 20 with a suitable Ex ia Power Supply).**

The use of 1310nm optics (instead of 850nm) allows a longer fibre-optic link length, typically 10Km at (Gigabit) 1000Mbps using Single Mode fibre or 500m when using multi-mode fibre

There are 2x RJ45 (LAN) ports that support 10/100/1000 IS Ethernet connections – these can 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 (9475 used as a Powered Device).

Alternatively PoEx can provide power to another device connected to the LAN port (Power Source) by connecting power into the PoEx terminals to feed the LAN device (9475 used as a Power Source)

**TAKE CARE - DO NOT connect multiple power supplies together when using PoEx!**

Note: PoEx not available on Gigabit LAN versions

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

| | |
|---|---|
| **Petrochem -** | Process Monitoring, Galvanic Isolation... |
| **Mining -** | Underground Communication Links, Machine Monitoring…. |

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

Powering Business Worldwide

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## SPECIFICATION

**Power supplies**
12VDC IS Power Supply Input
Typically 12V @ 270mA (Inrush < 200mA)
Ui = 15.4V
9492-PS-PLUS recommended

**Ethernet**
Intrinsically Safe 10/100/1000Base-T
**Connector**
RJ45 (x2)
**Cable Length**
Up to 100m Cat5e
**PoEx**
Powered Device or Power Source

## FIBRE OPTIC CONNECTIONS

**Connector (Top Port TX, Bottom Port RX)**
Duplex SC (Gigabit 1000Mbps single-mode or multi-mode)
1000BASE-X

## SAFETY

**Eye Safety**
Class 1 LED/Laser Product

**Location of Unit**
Zone 1, IIBT4 hazardous area (9475-ETG)
Zone 1, IICT4 hazardous area (9475-ET)

**Certification Code**
Ex ia op is IIBT4 Ga (9475-ETG)
Ex ia op is IICT4 Ga (9475-ET)
[Ex ia Da] IIIC T135°C (non-mining)
Ex ia op is 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 |
| **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 |
| **FIBRE Ports (purple)** | No Link | Data | Linked |

## FIBRE PORT SPECIFICATION (Gigabit)

### 1000BASE-X

**TX Output (1310nm)**
Single-Mode -9.5dBm (min),-3dBm (max) *note1

**RX Sensitivity**
Single-Mode -21dBm (max)

**note1 – transmit power coupled into 9um single-mode fibre*



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## 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 | FIBRE1 LED | 16 | FIBRE2 LED |
| 17 | | 18 | |

**#Powered Device:** Connect LAN1 OR LAN2 PoEx Out terminals to Power In terminals to use this function.
**#Power Source:** Connect a power supply to LAN1 PoEx In and/or LAN2 PoEx In terminals to use this function.

**TAKE CARE - DO NOT connect multiple power supplies together when using PoEx**

- 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

## ORDERING INFORMATION

| Part Number | Description | Comments |
|---|---|---|
| **9475-ETG** | **Dual Media Converter – Gigabit Single/Multi-Mode SC Fibre (Gigabit LAN)** | **Standard** |
| **9475-ET** | **Dual Media Converter – Gigabit Single/Multi-Mode SC Fibre (10/100 LAN + PoEx)** | **Special Order** |

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

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