

## Technical data MTL industrial network solutions

June 2023  
EPS 9478-ETX Rev 3

# 9478-ETX

## MTL Intrinsically Safe Gigabit Ethernet Galvanic Isolator

- Intrinsically Safe ATEX / UKEX / IECEx Certification / North America (MET<sub>C/US</sub>) approvals
- Galvanically Isolated Safe and Hazardous Area Ports
- Single IS Ethernet Switch Port 10/100/1000Mbps LAN
- Easy installation with independent Safe and Hazardous links with auto- negotiation
- Status LEDs
- Single 12V/24VDC (10-30V) supply
- Easy migration of 9468-ET with same dimensions (W: 100 x H: 75 x D: 116 mm)
- [Ex ia Ga] IIB, [Ex ia Da] IIIC (non-mining), [Ex ia Ma] I (M1 mining).
- Ta = -40°C to +70°C
- Safe Area or Zone 2 / Zone 22 mounting



**The 9478-ETX(G) is an Intrinsically Safe (IS) Ethernet Isolator** suitable for Safe Area or Zone 2 / Zone 22 mounting.

The RJ45 (LAN) port on the Safe Area side supports 10/100/1000 standard Ethernet connections. The Hazardous Area RJ45 provides an IS LAN connection.

A single (12V/24V DC) power supply is required plus a 12V IS power supply if PoEx is required.

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

<b>Petrochem -</b>	Process Monitoring, Galvanic Isolation...
<b>Mining -</b>	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.



**Eaton Electric Limited,**  
Great Marlings, Butterfield, Luton  
Beds, LU2 8DL, UK.  
Tel: + 44 (0)1582 723633 Fax: + 44 (0)1582 422283  
E-mail: [mtlenquiry@eaton.com](mailto:mtlenquiry@eaton.com)  
[www.mtl-inst.com](http://www.mtl-inst.com)

© 2023 Eaton  
All Rights Reserved  
Publication No. EPS 9478-ETX(G) Rev 3  
June 2023

## 9478-ETX

June 2023

### SPECIFICATION

#### Power supply

12V/24VDC (10-30V) Power Supply Input  
Typically 24V @ 110mA or 12V @ 200mA  
12VDC IS Power Supply Input PoEx (\*optional with 9478-ETX)  
9492-PS-PLUS recommended

#### Input protection

Fuse + supply reversal diode

#### Ethernet

Standard 10/100/1000Base-T (Safe Area Port)  
Intrinsically Safe 10/100/1000Base-T (Haz. Area Port)

#### Connector

RJ45 (x1) Safe Area  
RJ45 (x1) Haz. Area

#### Cable Length

Up to 100m Cat5e

### SAFETY

#### Location of Unit

Safe Area or Zone 2 / 22

#### Certification Code

[Ex ia Ga] IIB (9478-ETXG)  
[Ex ia Ga] IIC (9478-ETX)  
Ex ec [Ex ia] IIB T4 Gc (9478-ETXG)  
Ex ec [Ex ia] IIC T4 Gc (9478-ETX)  
[Ex ic Gc] IIB (9478-ETXG)  
[Ex ic Gc] IIC (9478-ETX)  
[Ex ia Da] IIIC (non-mining)  
[Ex ia Ma] I (M1 mining)  
Ta = -40°C to +70°C

#### Certificate numbers

CML 21ATEX21077X  
CML 21ATEX41106X  
CML 21UKEX21078X  
CML 21UKEX41107X  
IECEX CML 21.0121X  
IECEX ExTC 22.0002X

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	100mm
Height	75mm
Depth	116mm
Weight	400g
Mounting	Din Rail

### LED INDICATORS

	OFF	FLASH	ON
12V/24V PWR (green)	Power Fail	N/A	Power OK
HAZ PWR (green)	Internal Supply Fail	N/A	Power OK
STAT (green)	Fault	Healthy	Healthy
WDG (green)	Fault	Green – Healthy (10Hz)	Fault
RJ45 ACT (yellow)	Ethernet link disconnected	Ethernet link activity	Ethernet link connected
RJ45 1000 (green)	10/100Mbps	N/A	1000Mbps

Note: The HAZ PWR LED indicator monitors the internal isolated power supply generated from the 12V/24V Safe Area supply input.

9478-ETX

June 2023

## DATA & POWER TERMINALS

### Power (Enclosure Terminals)

Terminal	Function
<b>T1</b>	Power In +12V/24V
<b>T2</b>	Power In +12V/24V
<b>T3</b>	Power 0V
<b>T4</b>	Power 0V
<b>T5-13</b>	No connections
<b>T14</b>	PoEx +12V*
<b>T15</b>	PoEx 0V*

Note – Power terminals 1+2 and 3+4 internally connected  
To allow looping to other units

### LAN (RJ45 - SK1, SK2)

#### 10/100/1000 BASE-T Ethernet

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

\*Note- PoEx only on SK2 of ETX model  
Hazardous Area RJ45 SK2 is marked BLUE

## ORDERING INFORMATION

Part Number	Description	Comments
<b>9478-ETXG</b>	Ethernet Isolator – 10/100/1000Mbps Gigabit	<b>Standard</b>
<b>9478-ETX</b>	Ethernet Isolator – 10/100/Mbps + PoEx	Special Order



**Eaton Electric Limited,**  
Great Marlings, Butterfield, Luton  
Beds, LU2 8DL, UK.  
Tel: + 44 (0)1582 723633 Fax: + 44 (0)1582 422283  
E-mail: [mtlenquiry@eaton.com](mailto:mtlenquiry@eaton.com)  
[www.mtl-inst.com](http://www.mtl-inst.com)

© 2023 Eaton  
All Rights Reserved  
Publication No. 9478-ETX(G) Rev 3 290623  
June 2023

**EUROPE (EMEA):**  
+44 (0)1582 723633  
[mtlenquiry@eaton.com](mailto:mtlenquiry@eaton.com)

**THE AMERICAS:**  
+1 800 835 7075  
[mtl-us-info@eaton.com](mailto:mtl-us-info@eaton.com)

**ASIA-PACIFIC:**  
+65 6 645 9888  
[sales.mtl@eaton.com](mailto:sales.mtl@eaton.com)

The given data is only intended as a product description and should not be regarded as a legal warranty of properties or guarantee. In the interest of further technical developments, we reserve the right to make design changes.