

# TX2123 RS485 TO ETHERNET ADAPTOR

Converts Datacomms between fibre optic  
Modbus TCP over Ethernet and hard-wired copper  
Modbus RTU over RS485



ATEX

UNDERGROUND MINING APPLICATIONS

**TROLEX**

The Adaptor will convert between a single master on the Ethernet side and a series of slave devices on the RS485 side.

LED Indicators on the front of the module provide information about the incoming power supply source and the activity of the communications ports.

The device is housed in a robust and compact housing with integral mounting facilities for convenient DIN rail fitting, and large spacious terminals for the connection of heavy duty plant cables.

The TX2123 converts data communications between Fibre Optic Modbus TCP over Ethernet and hard-wired copper Modbus RTU over RS485.

The Adaptor will convert between a single master on the Ethernet side and a series of slave devices on the RS485 side. Both ports of the Adaptor have galvanic isolation from each other for maximum data security, this feature also enables intrinsically safe power supplies to be fully electrically segregated.

LED Indicators on the front of the module provide information about the incoming power supply source and the activity of the communications ports.

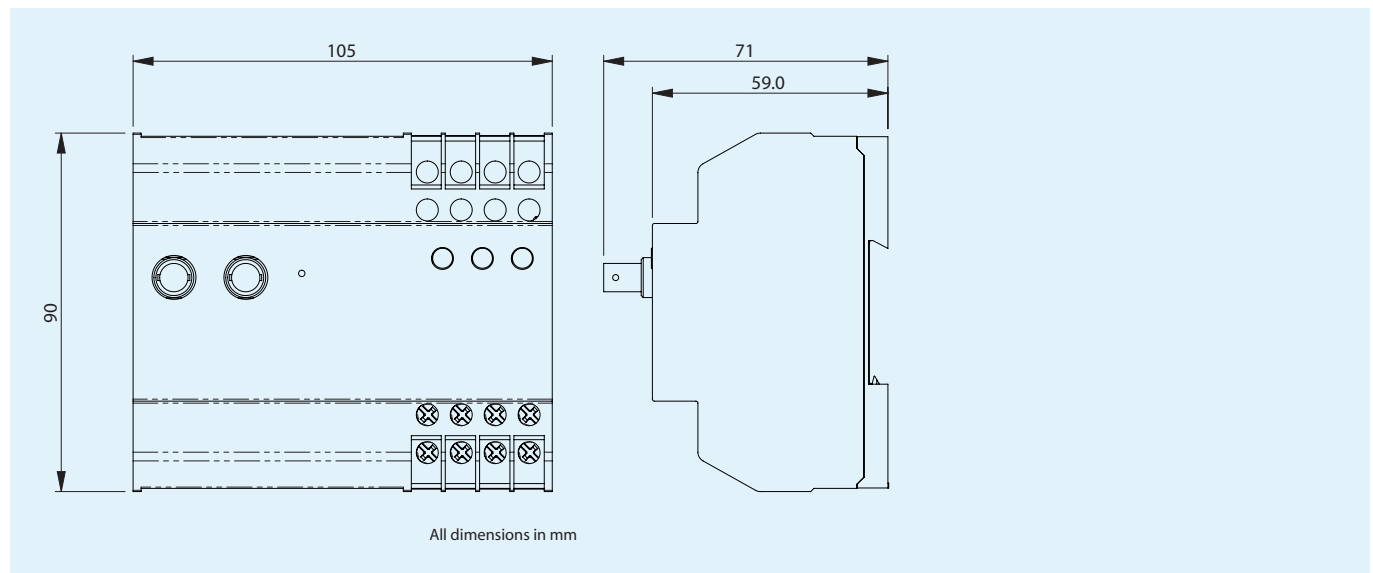
The operating parameters of the Line Repeater can be setup to individual requirements using a web interface via a HTTP compliant browser.

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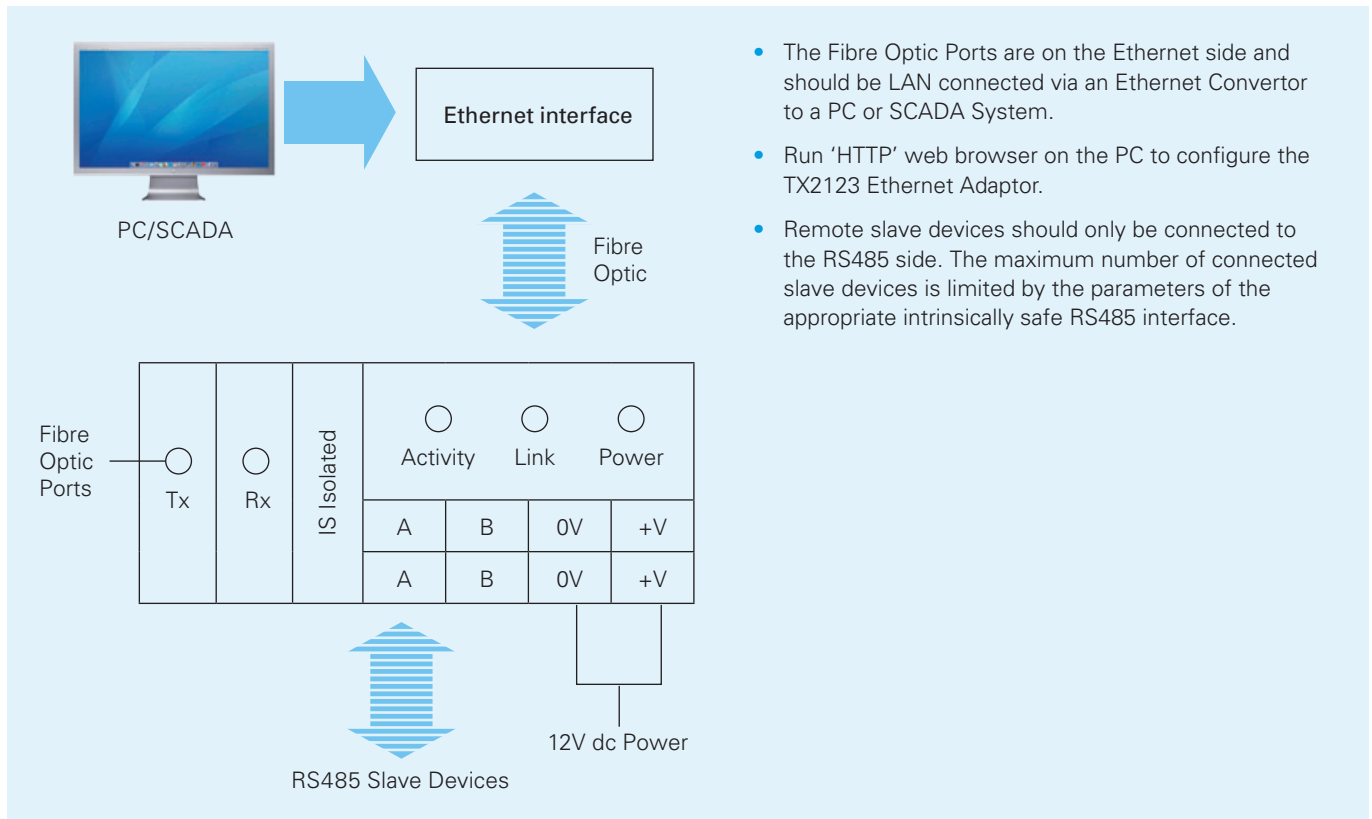
## TECHNICAL DETAILS

<b>Supply Voltage</b>	12V dc nominal (10V...14V dc)
<b>Current Consumption</b>	350mA
<b>Operating Temperature</b>	-10°C...50°C
<b>Storage Temperature</b>	-40°C...70°C
<b>LED Indicators</b>	<ul style="list-style-type: none"> <li>• Power ON</li> <li>• Transmitted data activity</li> <li>• Ethernet link established</li> </ul>
<b>Dataport configuration</b>	<ul style="list-style-type: none"> <li>• Fibre optic ETHERNET port for LAN connection to PC or SCADA</li> <li>• Hard wired copper RS485 port for connection to slave devices</li> </ul>
<b>Reset system</b>	Pin hole access RESET switch returns all data to the original manufactured settings

## DIMENSIONS



## CONNECTIONS



**DATA COMMUNICATIONS**

<b>ETHERNET – Fibre Optic Port</b>		
<b>PHYSICAL LAYER</b>	Standards Media support Multimode optical fibre Connectors Maximum distance Data transfer rate	100BASE-FX; IEEE802.3u Fibre optic multimode: 50/125um or 1300nmm Full duplex ST 500m 10 or 100 M bps
<b>DATA LINK LAYER</b>	Unique exclusive MAC address	
<b>PROTOCOL LAYERS</b>	Network Transport Session Presentation	TCP/IP TCP/IP TCP/IP TCP/IP
<b>APPLICATION LAYER</b>	Reformat MODBUS Ethernet messages to MODBUS RTU	

<b>RS485 – Hand Wired Copper Port</b>		
<b>PHYSICAL LAYER</b>	Electrical Baud rate Maximum distance	RS485 two wire multidrop, half duplex 300...115200 baud. All standard rates 1000m dependant upon cable parameters
<b>DATA LINK LAYER PROTOCOL</b>	MODBUS RTU	
<b>APPLICATION LAYER</b>	Reformats incoming MODBUS RTU messages to MODBUS Ethernet	

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## COMPLIANCE

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Certified Intrinsically Safe for use in Group I Mining Application.

**ATEX**  
GROUP I

EX I M1 Ex ia I Ma (-20°C ≤ Ta ≤ +40°C) Ex op is I Ma  
Baseefa09ATEX0341X



- ATEX directive (94/9/EC)
- EMC directive (2004/108/EC)