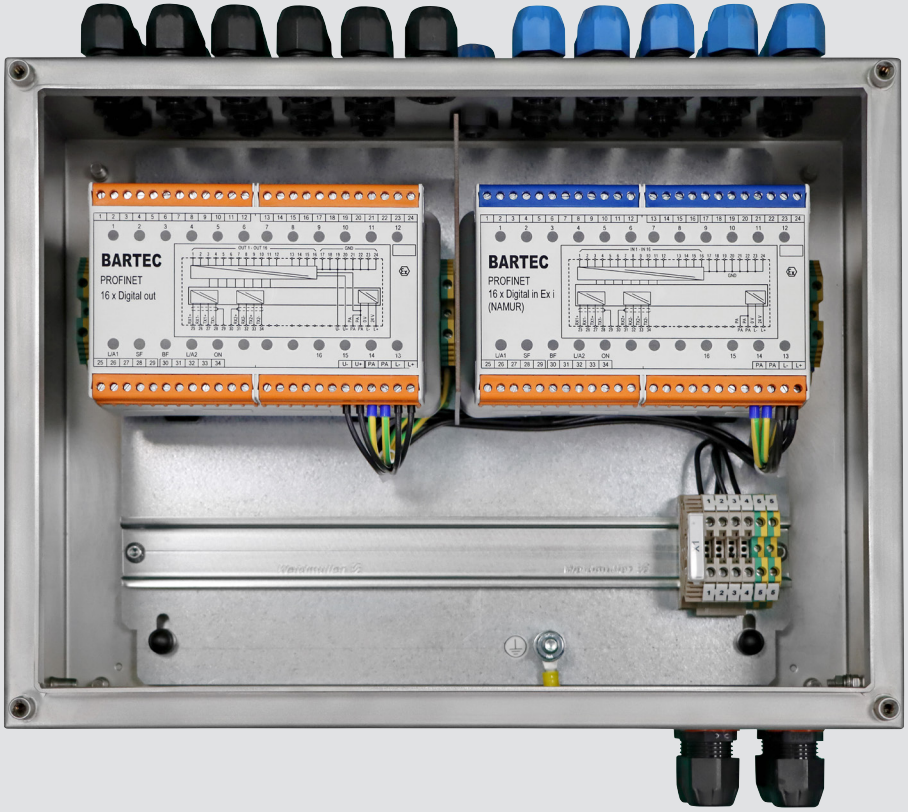
BARTEC



NEW

MODEX Ethernet product portfolio

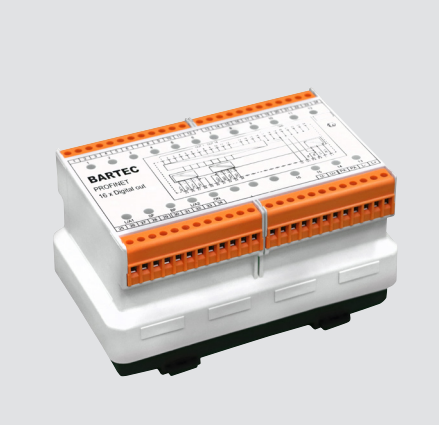
Remote I/O, couplers
& switch for zone 1/21

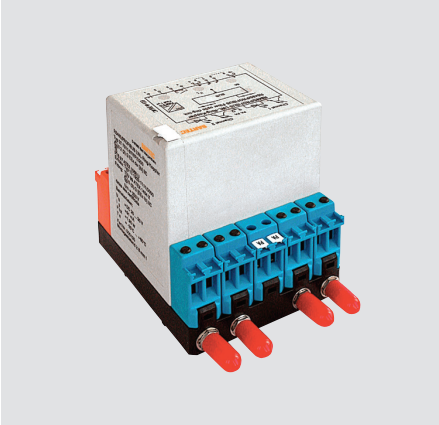
PROFINET® | MODBUS TCP

BARTEC

MODEX Ethernet

Modular, flexible and safe. The solution for hazardous areas in Zone 1/21





MODEX Ethernet Remote I/O
All in one module:
bus interface and inputs/outputs

- Bus protocols: PROFINET & MODBUS TCP
- MODEX I/O : digital, analogue, RTD
- Integrated ethernet switch

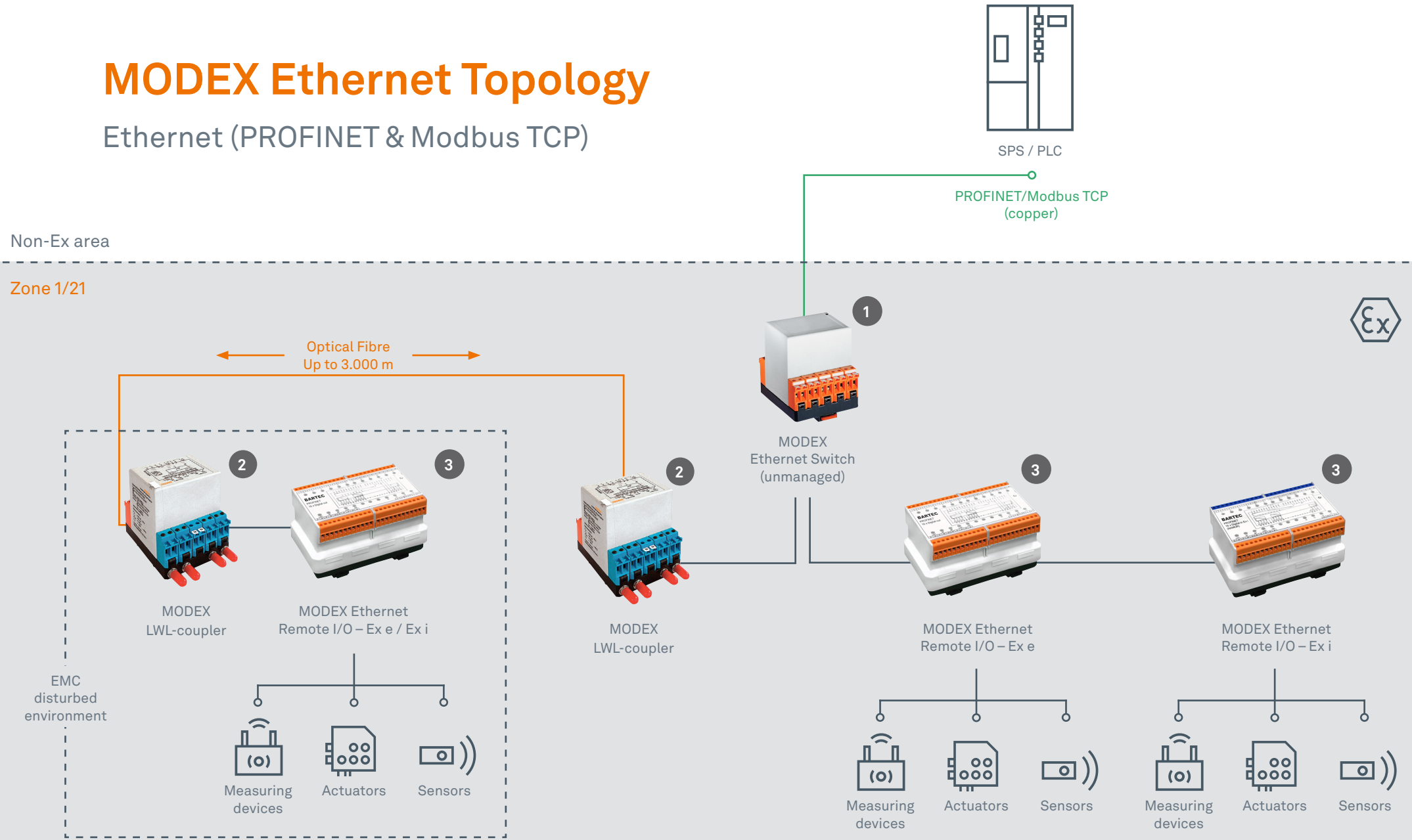
Innovative and practical
MODEX as a single or
combined solution

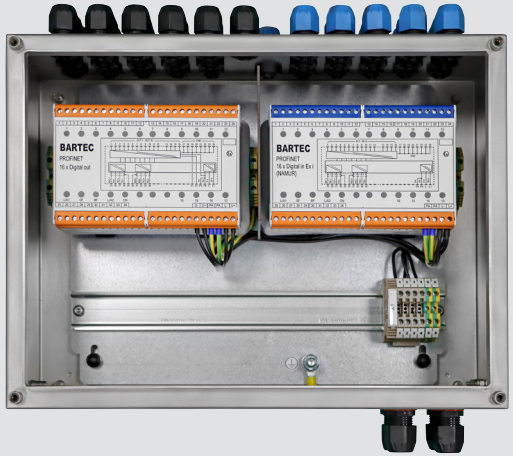
- Network switch (unmanaged)
- Optical fibre coupler for the infrastructure

Ethernet is becoming the standard even in hazardous areas, offering high data rates, easy scalability and vendor-independent communication – and this is exactly where the MODEX-Ethernet series comes in. With Ethernet-based Remote I/O modules, LWL-couplers and unmanaged switches, MODEX brings modern networking technology safely into Zone 1/21 reducing wiring complexity and maximizing flexibility. Thanks to international certifications and smart Ex-i/Ex-e technology, MODEX-Ethernet is the future-proof solution for efficient automation in explosive environments.

MODEX Ethernet Topology

Ethernet (PROFINET & Modbus TCP)





Benefits

- Simple integration into existing control system
- Compact design
- Reduction in cabling
- Cost-effective extensions instead of expensive complete system solutions
- International certifications (ATEX; IECEx; CSA; INMETRO)
- Connecting between Ex and non-Ex
- Ex-i in-/outputs for applications with low power demand
- Ex-e for supplying consumers with a high-power demand

	1 - MODEX Ethernet Switch	2 - MODEX LWL-Coupler	3 - MODEX Remote I/O	
Portfolio	• Unmanaged Switch	• T-Coupler • PP-Coupler	Remote I/O – Ex e	Remote I/O – Ex i
			• 8 x Analog in/out (16 Bit) • 16x digital out • 16x digital in	• 8 x Analog in/out (16 Bit) • 16x digital out • 16 x digital in NAMUR • 4 x RTD in • 8 x RTD in (No galvanic isolation)
Function	An Ethernet switch has the task of **switching data packets between different devices in a local network.** It acts as a kind of distributor that receives incoming data packets and forwards them to the correct device. Unmanaged means that you cannot set a manual prioritization. The forwarding happens automatically • Simple connection: • Plug-and-play • Data forwarding • Avoidance of data collisions	LWL-couplers (optical fiber couplers) are often used to ensure safe and reliable data transmission and to **reroutes the signals from copper to optical fibres.** Its applications also include: • **The bridging of signals over long distances** • **In applications that are sensitive to faults**	The task of a remote I/O module is to establish a **connection between various field devices** (such as sensors and actuators) **and a central control system (PLC)**. These modules enable the decentralized acquisition and processing of data in industrial automation systems. A RTD module (Resistance Temperature Detector) has the specific task of carrying out temperature measurements in industrial applications by connecting RTD sensors to a central control system. E.g. Pt100/Pt1000 potentiometer.	
Application / field devices			• **Actuators:** These include electric drives, valves, switches and relays that are used to control machines and processes. • **Measuring devices:** Devices for monitoring chemical or physical parameters, such as pH meters or gas analyzers. • **Sensors:** These include pressure, temperature, level and flow sensors that record important process data. • **Monitoring systems:** systems for monitoring safety and alarm signals that are used in critical applications. • **Control systems:** These can be in the form of PLCs (Programmable Logic Controllers) or DCSs (Distributed Control Systems) used in process automation. • **Communication devices:** Devices used for data transmission and communication between different systems and components.	
	Link	Link	Link	

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