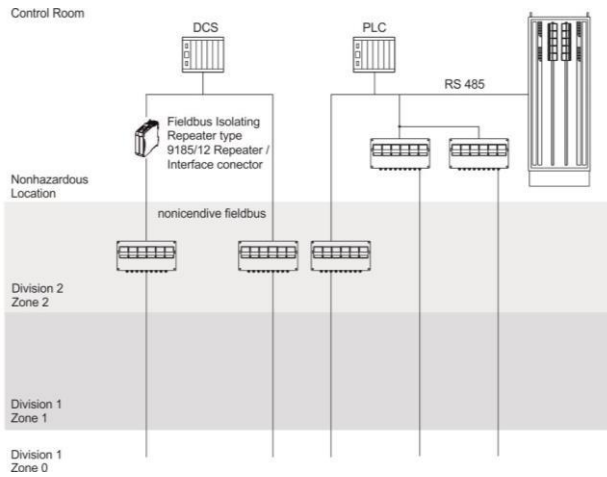
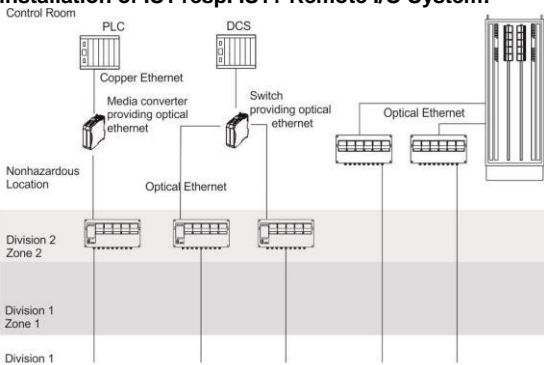


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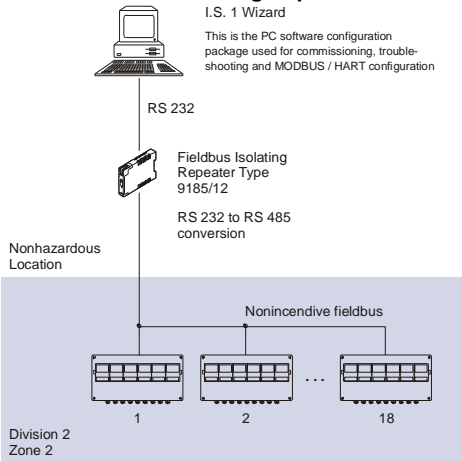
Example for System Topology interfacing Automation control systems with DIV 2 / Zone 2 installation of IS1 resp. IS1+ Remote I/O System:



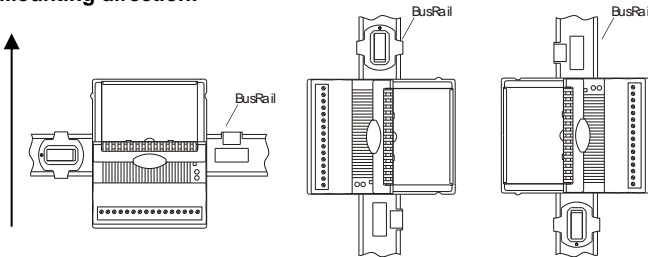
Example for Ethernet System Topology with Isolators interfacing Automation control systems with DIV 2 / Zone 2 installation of IS1 resp. IS1+ Remote I/O System:



Service Bus with Isolating Repeater interface:



Mounting direction:



The IS1 resp. IS1+ Remote I/O is a DIN rail mounted system designed to record and output process control signals between hazardous location transducers and sensors and a nonhazardous location automation system. It consists of electrical apparatus in the nonhazardous, Class I, Division 2 or Class I, Zone 2 hazardous locations linked by either nonincendive field bus or a field bus installed per the National Electrical Code, ANSI/NFPA 70 Article 500 or Canadian Electrical Code, CSA C22.

Installation with the use of an appropriate fieldbus isolator for nonincendive fieldbus circuits (e.g. R. STAHL type 9185). The Ethernet interface is achieved with the use of media converters and switches providing optical Ethernet.

These devices reside in the unclassified (nonhazardous) location or Division 2 / Zone 2 locations and provide a connection to the IS1 resp. IS1+ Remote I/O System. See examples to the left.

The apparatus located in the Division 2 or Zone 2 hazardous location are referred to as Remote I/O, and consist of the following major subsystems.

- CPU & Power Module or CPU Module, Power Module & Socket**
The CPU & Power Module or the Power Module serves as a power supply unit for its CPU unit or the CPU Module, as well as for the supply to the I/O Modules and the field circuits. The power supply to the I/O Modules is implemented via the BusRail. For the configuration with a redundant CPU and Power Module the power supply to the I/O Modules is decoupled with diodes. The power supply unit has an under voltage monitoring circuit. The CPU fulfils the function of a gateway between the internal bus of an IS1 field station and the fieldbus which connects the field station with the automation system. The gateway is constructed as a dual processor system. The I/O processor controls the data exchange with the I/O Modules and, when plugged-in, with the redundant CPU & Power Module. The communication processor controls the data exchange on the fieldbus and on the Service Bus.
- BusRail**
The BusRail provides a Power bus, an internal data bus and the address lines for the interconnection of the CPU & Power Supply to Remote I/O Modules. The Power bus distributes power supplied by the CPU & Power Module to the I/O Modules plugged to the BusRail. The communication with the I/O Modules is implemented via the address and data bus lines. The interface of the CPU & Power Module with the internal data bus on the BusRail is designed with redundancy.
- Components of Remote I/O System**
All I/O Modules are manufactured in a unique DIN rail mount package which then mounts onto the Remote I/O system BusRail. All I/O Modules provide galvanic isolation between the field circuits and the BusRail's circuits.

GENERAL NOTES:

- Installation should be in accordance with Article 504/505 of the National Electrical Code, ANSI/NFPA 70 and ANSI/ISA RP12.06.01.
- Installation in Canada should be in accordance with the Canadian Electrical Code, CSA C22.1, Part 1
- Use a general purpose enclosure meeting the requirements of ANSI/ISA 61010-1 for use in nonhazardous or Class I, Division 2 or Class I, Zone 2 hazardous (classified) locations.
- Use an FM Approved or NRTL listed Dust tight enclosure appropriate for environment protection in Class II and III, Division 2, Groups E, F and G, hazardous (classified) locations.
- All I/O Modules may be detached from the BusRail or plugged onto it during operation in hazardous areas.
- Mount the device in a vertical direction, with the reading of the marking from below, left or right, or in a horizontal direction with the terminals nearest the bottom of the enclosure. Never mount the IO modules upside down (terminals towards the top of the enclosure). As shown to the left.

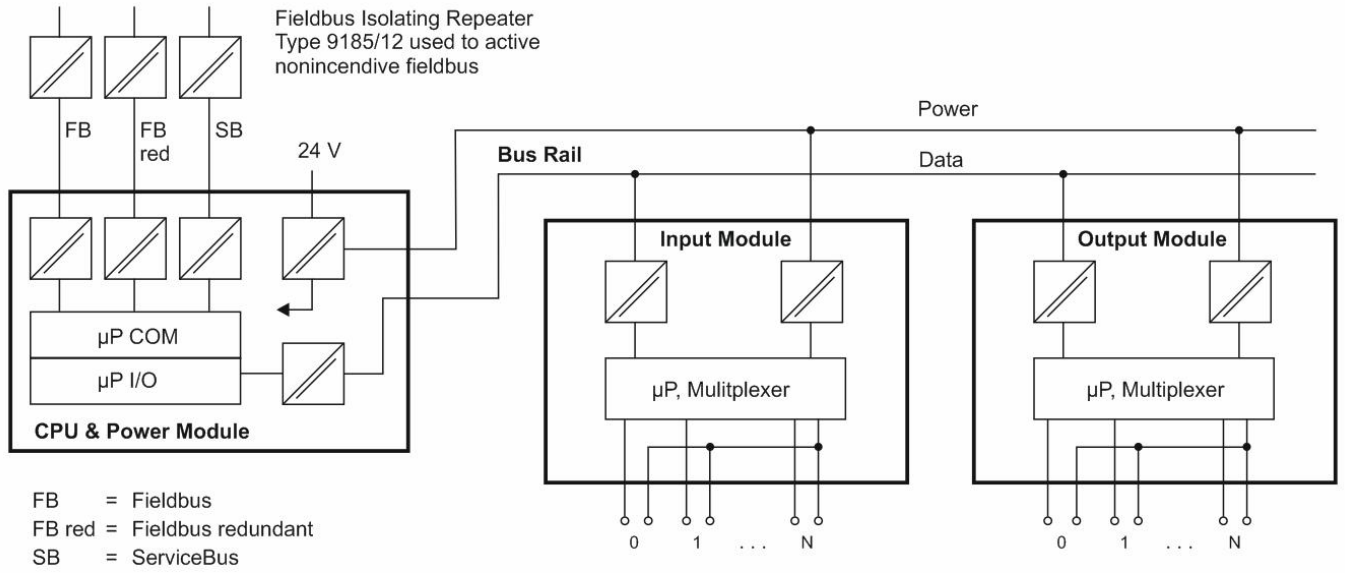
WARNING: Substitution of components may impair Intrinsic Safety.
AVERTISSEMENT: Substitution de composants peut compromettre la sécurité intrinsèque.

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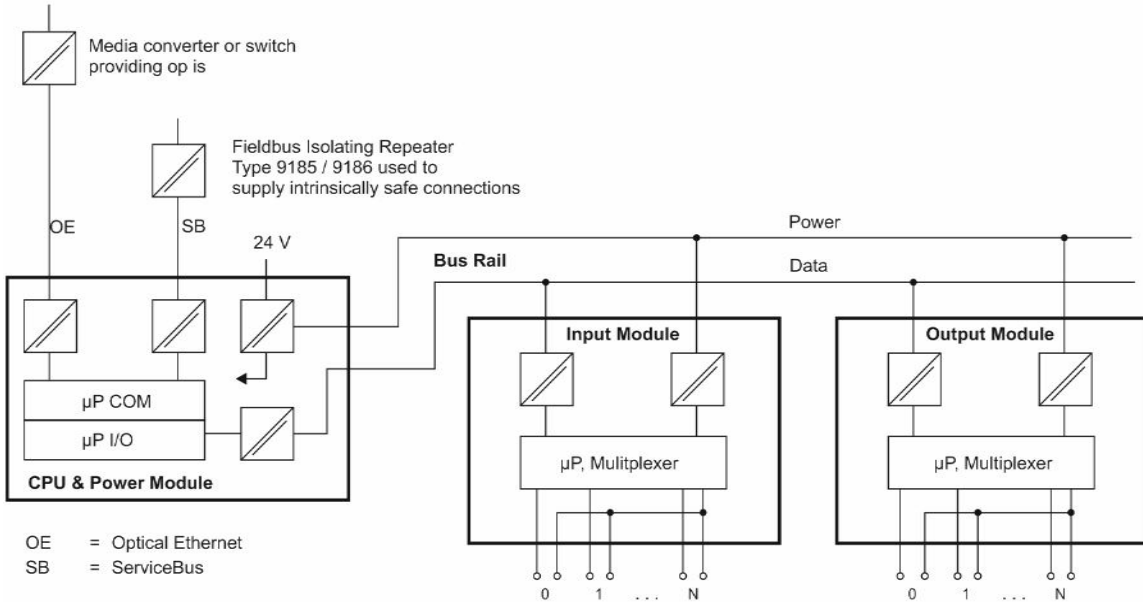
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			Drawn by	03.03.	Bagusch		none
			Checked		Kaiser		Sheet 1 of 2
					STAHL		Agency FM
Version	Date	Name					
			Rep. f.		Rep. t.		A4

Block Diagram of an RS485 Field Station:



I.S. Inputs and Outputs
Class I, II, III, DIV 1, Groups A-G; Class I, Zone 0, IIC/IIB
or Non I.S. or Nonincendive circuits,
Class I, II, III, DIV 2, Group A-G; Class I, Zone 2, Group IIC/IIB

Block Diagram of an Ethernet Field Station:



I.S. Inputs and Outputs
Class I, II, III, DIV 1, Groups A-G; Class I, Zone 0, IIC/IIB
or Non I.S. or Nonincendive circuits,
Class I, II, III, DIV 2, Group A-G; Class I, Zone 2, Group IIC/IIB

**Construction example for assembly of an IS1 resp. IS1+ System:
DIV 2 / Zone 2 assembly illustration shown**



2016	Date	Name	STAHL	Certification drawing IS1 resp. IS1+ Remote I/O System for CL I, DIV 2 / Zone 2 Overview	Scale
Drawn by	03.03.	Bagusch			none
Checked		Kaiser			Sheet 2 of 2
Version	Date	Name		9400 6 031 004 1	Agency FM
			Rep. f.	Rep. t.	A4