



APPLICATION STORY: CARBOWIL, POLAND

FOUNDATION fieldbus™ was chosen by Carbowil Spolka z.o.o. as the preferred instrumentation technique for its CO₂ production plant in Wloclawek, Poland. Part of the plant is classified as a Zone 2 hazardous area, and in order to maintain a uniform approach across the entire installation, an explosion protection method suitable for Zone 2 was required. **MTL's FNICO (Fieldbus Non-Incendive Concept) power supplies** were selected to provide power to all 21 fieldbus segments, each connected to a **10-way Megablock wiring hub**.

Among the benefits of FNICO enjoyed by Carbowil is the ability to work on any part of the fieldbus segment while energised in the hazardous area without 'gas clearance', since the entire network – trunk and spurs – is energy-limited to avoid creation of incendive sparks or hot surfaces. This EEx nL technique is defined in IEC standard 60079-27, which governs the design of FNICO power supplies such as the **9112-NI** used at the Wloclawek plant. This particular supply unit is designed with a high current output for Gas Group IIB environments, and is therefore suitable for the less onerous IIA gases encountered in the CO₂ production process.

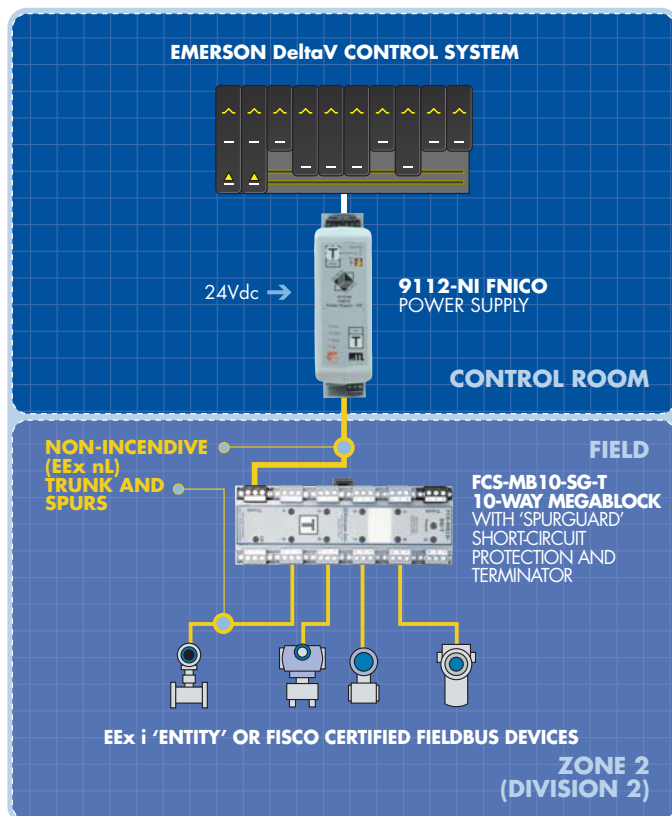
Certification requirements for fieldbus devices connected to FNICO power supplies are straightforward, so the engineering contractor - Jacobs Belgie N.V. - was able to choose from a mixture of intrinsically safe types including both 'Entity' and FISCO approvals.

A further project requirement was the ability to connect to the fieldbus interface cards on the Emerson DeltaV control system. In common with all **MTL's NET9000 power supplies**, the 9112-NI includes the option to provide up to 30mA of current to the 'host' trunk to the DeltaV fieldbus card, thereby avoiding the need for additional power supplies in the safe area.

The **FCS-MB10-SG-T Megablocks** used on the project include 'SpurGuard' short-circuit protection and a built-in terminator, and are EEx nL certified making them ideal for use in FNICO systems.



**911x-NI
FNICO POWER SUPPLIES**



Live-workable trunk and spurs in FNICO installation at Carbowil, Poland



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