

MCG 3221

Protocol Converter

Automation engineers, maintenance teams, and terminal operators replacing or upgrading host systems on Tankway-native L&J gauge fleets need a translator that lets new Modbus or HART control rooms read existing radar, servo, and RTD instruments without touching the field devices. The MCG 3221 Protocol Converter is a microprocessor-based interface that translates tank-level, temperature, and BS&W data between L&J Tankway and Modbus RTU, Modbus TCP, HART, and serial protocols, with multiple register formats and error-checked transmission for custody-transfer integrity. Unlike generic protocol converters that don't speak Tankway or understand tank-data semantics, the 3221 handles legacy and modern devices simultaneously and exposes the right register layouts for inventory, custody, and process monitoring — letting operators modernize the control room without rewiring the tank farm.

Key Features

Seamless protocol bridging

Eliminates mismatches between field devices and host systems by converting L&J gauge data into Modbus, Tankway, or HART formats for immediate compatibility.

Custody-grade data integrity

Ensures accurate transfer of level, temperature, and BS&W data using verified register mapping and error-checked communication to maintain transaction reliability.

Legacy system support

Allows older gauges and RTD converters to operate with modern SCADA and DCS hosts without hardware replacement, preserving existing infrastructure investments.

Fast commissioning workflow

Plug-and-play configuration with preset register blocks minimizes setup time and reduces operational disruption during upgrade or expansion projects.

Multipoint device scalability

Supports multiple L&J field instruments simultaneously, enabling terminals to standardize reporting across large tank inventories within a unified architecture.

Robust industrial communications

Implements Modbus RTU/Binary framing with selectable baud rates and parity options for stable, interference-resistant data transmission.

Typical Applications



MIXED-PROTOCOL TANK FARMS

Unifies data from gauges, converters, and interface modules so operators can display and manage all tank information in a single host system.



CUSTODY-TRANSFER REPORTING

Ensures host systems receive correctly formatted registers for level, temperature, and BS&W, supporting accurate, auditable custody-transfer documentation.



SCADA MODERNIZATION PROJECTS

Provides a translation layer allowing old devices to feed new SCADA platforms, avoiding costly tank farm rewiring or gauge replacement.



MULTI-TANK TERMINAL AUTOMATION

Centralizes communication for dozens of tanks, ensuring consistent data mapping and reliable measurement visibility across large facilities.



TEMPERATURE AND RTD INTEGRATION

Links RTD converter outputs to host platforms using standardized register structures, simplifying complex temperature reporting requirements.



PLC/HOST INTEROPERABILITY UPGRADES

Bridges disparate communication formats during PLC or DCS changes, ensuring continuity and reducing engineering rework during infrastructure modernization.

Benefits



Lower integration cost

Bridges legacy gauges and modern hosts without replacing field hardware, reducing upgrade expenses and avoiding unnecessary capital spending.



Audit-ready accuracy

Maintains full data fidelity during protocol translation, ensuring custody-transfer measurements remain precise and compliant with audit requirements.



Reduced commissioning effort

Simplified setup and predefined register mapping reduce engineering time, speeding project execution and minimizing tank farm downtime.



Standardized communications

Creates uniform reporting across devices and systems, reducing operator training needs and simplifying long-term maintenance.



Flexible connectivity

Supports multiple protocols and interface types, enabling integration into virtually any control or enterprise system architecture.



Long-term system scalability

Allows tank farms to add new devices and expand reporting capabilities without reworking foundational communication infrastructure.

Technical Specifications & Key Features

Inputs:	Compatible with L&J radar gauges, servo gauges, RTD converters, and IFIC modules.
Outputs / Protocols:	Modbus (RTU/TCP), Tankway, RS-485/RS-232, HART, plus custom options.
Power Supply:	110/220 VAC or 24 VDC.
Processing:	Microprocessor-controlled with error-checking for secure data transmission.
Construction:	NEMA 4X / IP66 enclosure for field installation; rack-mount option available.
Temperature Range:	-40 °C to +70 °C.
Integration:	Supports multiple devices simultaneously.
Certifications:	UL/C-UL listed; CE and ATEX options.

Dimensions

Typical System Layout

Model Number Selection

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Summary

With over 100 years of expertise in tank measurement and automation, Cognesense delivers solutions designed to ensure accuracy, compliance, and reliability. The MCG 3221 Protocol Converter reflects this heritage by providing a seamless bridge between diverse field devices and host systems, protecting existing investments while enabling future upgrades. By choosing the MCG 3221, operators gain simplified integration, reduced costs, and confidence in every transaction.

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