



Varec

A COGNESENSE BRAND

8920

Remote Terminal Unit (RTU)

For terminal operators, refinery engineers, inventory managers, and EPCs who need to connect installed float & tape gauges to PLC, DCS, and SCADA systems via standard 4–20 mA without replacing mechanical gauge hardware, the 8920 Loop Powered Transmitter delivers $\pm 1/16$ in (1.58 mm) accuracy, battery-free absolute capacitive encoding that retains level position through power interruptions, and direct-mount compatibility with Varec, L&J, GSI, and Sakura gauges. Loop-powered DC (20–48 VDC, two-wire) and active AC (85–305 VAC) variants fit modern and legacy installations. An optional second 4–20 mA loop adds temperature via 3-wire RTD, and two or four SPDT cam switches drive local high-level and overfill alarms. Unlike battery-backed transmitters, the 8920 is the direct upgrade path from aging 8200 Current Output Transmitters.



Key Features

Battery-less Power-Loss Resilience

Using an absolute capacitive encoder, the 8920 inherently retains the correct tank level position during power interruptions - without requiring batteries, backup memory, or additional hardware.

Dual 4–20 mA Loop Capability

An optional second loop enables simultaneous analog transmission of both liquid level and RTD based temperature, allowing comprehensive tank data to be delivered through a single instrument.

Universal Direct Mount Retrofit

Engineered for compatibility with existing float-and-tape gauges from Varec, L&J, GSI, and Sakura, the 8920 mounts directly to legacy hardware - minimizing mechanical rework and reducing upgrade costs.

Integrated Hardwired Alarms

The transmitter supports two or four SPDT cam operated limit switches with independently configurable set points.

These provide robust local relay automation and critical safety related failsafe functionality.

Capacitive Touch LCD Display

A built-in tankside LCD with capacitive touch controls allows for easy onsite configuration, scaling, and diagnostics - eliminating the need for external handheld devices or software.

Flexible Power & Output Options

Available in both 2wire loop powered (passive) and AC powered (active) models, the 8920 provides reliable industry standard analog output to host systems, supporting a wide range of installation requirements.



Typical Applications



TERMINAL INVENTORY REPORTING

Provides precise level and optional temperature outputs to host systems via standard 4–20 mA loops.



REFINERY PROCESS TANKS

Limit-switch options enable critical hardwired alarms, ensuring safe operation in process environments.



AVIATION FUEL STORAGE

Modernizes mechanical gauges in fuel farms with reliable analog output and tank-side indication.



HAZARDOUS CHEMICAL STORAGE

Explosion-proof construction supports safe measurement in strict hazardous locations.



LEGACY ANALOG SYSTEM UPGRADES

Offers a direct upgrade path from aging 8200 Current Output Transmitters, including use of legacy housings.



CENTRALIZED RTU INTEGRATION

Provides dependable analog loops for RTU analog input modules, unifying site inventory data.

Benefits



Retains Level Position Without Batteries

Absolute encoding maintains accurate position across power cycles—no battery maintenance required.



Simplifies Field Calibration

Capacitive-touch LCD eliminates the need for handheld tools and external configuration hardware.



Reduces Tank-Side Wiring

Dual-loop designs consolidate level and temperature into two analog loops, minimizing cable pulls.



Avoids Full Gauge Replacement

Direct-mount compatibility enables fast upgrades to mechanical gauges with minimal downtime.



Supports Local Mechanical Fail-Safes

Integrated SPDT limit switches provide independent hardwired safety relays.



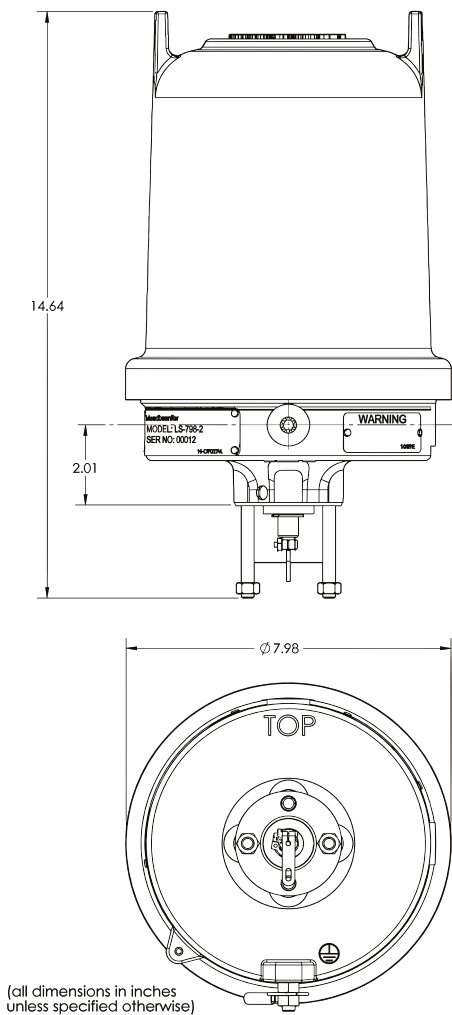
Flexible Power Integration

Works in both loop powered DC networks and active AC powered installations.

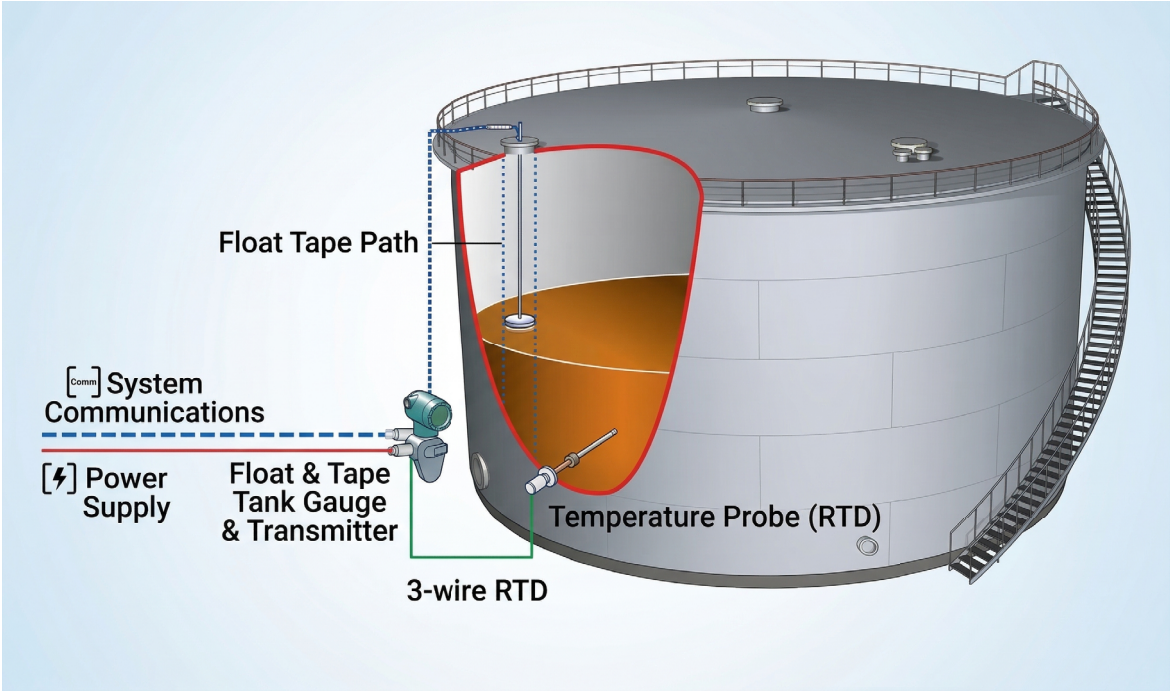
Technical Specifications

Specification	Details
Accuracy / Repeatability	±1/16 in (1.58 mm) accuracy; ~0.16% full-scale repeatability
Level Range	0–120 ft (0–36 m); limit switch range up to 100 ft (30 m)
Outputs	Primary 4–20 mA (level); optional 4–20 mA (temperature); HART pending
Temperature Input	Supports 3-wire RTD (e.g., PT100)
Limit Switch Options	2 or 4 SPDT Cam operated switches; adjustable dwell and independent set points
Power Options	20–48 VDC loop powered (passive) or 85–305 VAC (active)
Environmental Ratings	–25 to +73 °C (cFMus Div 1, external display only); –40 to +73 °C (cFMus Zone 1 / ATEX / IECEx / UKEx, Type 4); –40 to +85 °C (cFMus Zone 1 / ATEX / IECEx / UKEx, IP66); 0–95% RH non-condensing
Enclosure	Explosion-proof impregnated aluminum; IP66 / NEMA 4; 2–3 × ¾" NPT entries
Physical Specs	Approx. 17 lb (7.7 kg); 13.75" W × 7.5" H × 15" D (350 × 190 × 380 mm)

Dimensions



Typical System Layout



Model Number Selection

N8920

8920 Float & Tape Transmitter (FTT)

	Housing / Approvals
AC	"ATEX/IECEX (Std. Temp.) II 2 G Ex db IIB T5 Gb, -40 °C ≤ Ta ≤ +73 °C, IP66"
FC	"cFMus (USA & Canada) Class I, Division 1, Groups C&D, T5, -40 °C ≤ Ta ≤ +73 °C, Type 4 Class I, Zone 1, AEx db IIB T5 Gb, -40 °C ≤ Ta ≤ +85 °C, IP66 (USA) Ex db IIB T5 Gb, -40 °C ≤ Ta ≤ +85 °C, IP66 (CAN)"
FM	"cFMus (USA & Canada) Class I, Division 1, Groups C&D, T5, -25 °C ≤ Ta ≤ +73 °C, Type 4 Available with External Display Only"

	Power Input
1	Loop Powered
2	AC Powered

	Signal Output
S	Single 4-20 mA Output (Level)
D	Dual 4-20 mA Outputs (Level & Temperature)
H	HART Output (Level & Temperature) (Pending)

	Limit Switches
0	No Limit Switches
2	2 SPDT Limit Switches (18° adjustable dwell, positive activation)
4	4 SPDT Limit Switches (18° adjustable dwell, positive activation)

	Limit Switch Range
N	N/A Range, No Limit Switches
A	0-25 ft Limit Switch Range
B	0-50 ft Limit Switch Range
C	0-100 ft Limit Switch Range
D	0-7.5 m Limit Switch Range
E	0-15 m Limit Switch Range
F	0-30 m Limit Switch Range

	Display
A	Forward Facing (standard) Display
B	Backward Facing Display
C	Side Facing Display
D	Internal Display . Not available with Housing/Approval option FM

Example Order Code: N8920-FC-1-S-0-N-D

N8920

8920 Electronics Only. Can be used in N8200 Transmitter.

	Housing / Approvals
EA	No Housing. Electronics Assembly Only

	Power Input
1	Loop Powered
2	AC Powered

	Signal Output
S	Single 4-20 mA Output (Level)
D	Dual 4-20 mA Outputs (Level & Temperature)
H	HART Output (Level & Temperature) (Pending)

	Limit Switches
0	No Limit Switches
2	2 SPDT Limit Switches (18° adjustable dwell, positive activation)
4	4 SPDT Limit Switches (18° adjustable dwell, positive activation)

	Limit Switch Range
N	N/A Range, No Limit Switches
A	0-25 ft Limit Switch Range
B	0-50 ft Limit Switch Range
C	0-100 ft Limit Switch Range
D	0-7.5 m Limit Switch Range
E	0-15 m Limit Switch Range
F	0-30 m Limit Switch Range

	Display
D	"Internal Display Not available with Housing/Approval option FM"
E	External Display - Sold seperately

Example Order Code: N8920-EA-1-S-0-N-D

Summary

The 8920 Loop Powered Transmitter converts installed float & tape gauges into standard 4–20 mA field instruments, connecting them to PLC, DCS, SCADA, and RTU analog inputs without replacing the mechanical gauge hardware. Battery-free absolute encoding retains level through power interruptions, the dual-loop option delivers level and temperature from a single instrument, and direct-mount compatibility spans the major float & tape gauge platforms. For terminals, refineries, chemical plants, and aviation fuel facilities standardizing analog level signaling across a mechanical gauge fleet, the 8920 LPT is the direct upgrade path.

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This document is for information purposes only. All designs subject to change. Certified dimensions, specifications, and performance data available upon request