

8240

Tactical Fuel Gauge

For fuel supply officers, logistics commanders, and petroleum operations specialists managing bulk liquid assets at expeditionary fuel points, forward operating bases, and remote industrial sites without permanent gauging infrastructure, the 8240 Tactical Data Unit polls up to four 7660 Tactical Fuel Gauges and four Tactical Flow Meters, performs automated tank strapping to build site-specific gauge charts of up to 1,000 data points, and calculates API-corrected fuel volumes to 60°F per API Tables 5b/6b — all from a rugged, tool-free ground rod mount rated -40°F to +167°F. Unlike generic data acquisition units, the 8240 is the only field computation device purpose-built for collapsible storage tank environments, combining automatic mapping, non-volatile strapping retention, ISA/CSA and ATEX/IECEX certification, and native FuelsManager® integration in one deployable unit.



Key Features

Automated Tank Strapping

Dynamically builds a unique gauge chart with up to 1,000 data points per CST, automatically compensating for tank construction variances, bulge, and installation conditions. Eliminates manual strap calculations that introduce systematic error and slow inventory accounting at every deployment.

API Volume Correction

Calculates fuel volumes corrected to 60°F per API Tables 5b/6b using field sensor data. Provides custody-transfer-grade accuracy at the point of measurement, meeting DoD and commercial accountability standards without manual post-processing.

Multi-Device Integration

Simultaneously polls up to four 7660 TFGs and four Tactical Flow Meters from a single unit, consolidating an entire fuel point into one validated data stream. Reduces infrastructure needs and removes the requirement for separate data concentrators per gauge type.

No-Tools Ground Rod Mounting

Attaches directly to a standard military grounding rod without tools, enabling rapid setup and teardown in the field. Minimizes equipment and personnel requirements for establishing a fully instrumented fuel point in austere environments.

Hazardous Area Certified

Certified to ISA/CSA Class 1 Division 2 and ATEX/IECEX Ex II 3(1)G for North American and international deployments. Operates safely in fuel vapor environments without additional explosion protection, removing compliance barriers at every site.

Non-Volatile Strapping Table Storage

Stores gauge charts in non-volatile memory, preserving data through power interruptions. Volume calculations resume automatically when power returns, ensuring continuous inventory accounting even in unreliable power conditions.

Typical Applications



FORWARD OPERATING BASE FUEL POINTS

Multi-tank CST farms need consolidated inventory; one TDU aggregates up to four gauges into a single data feed.



EXPEDITIONARY AVIATION FUEL FARMS

JIG and DoD standards require volume correction; the TDU provides API-corrected quantities at every accounting interval.



DISASTER RELIEF DEPOTS

Rapid setup is essential; tool-free ground-rod mounting deploys a complete data-collection system in minutes.



REMOTE OIL & GAS SITES

Unmanned locations demand reliable data continuity; non-volatile storage preserves strapping tables through power interruptions.



MILITARY LOGISTICS HUBS

Accountability audits require traceable volume records; the TDU supplies FuelsManager® with corrected, timestamped inventory data.



TEMPORARY MINING OPERATIONS

Mixed fuel types require accurate volumetric tracking; the TDU integrates flow meters and level gauges into a single unit.

Benefits



Accurate Volume Calculation

API Table 5b/6b correction eliminates volumetric errors that accumulate over time in manual or uncorrected inventory accounting.



CST-Specific Gauge Charts

Automated strapping accounts for each tank’s unique shape, expansion, and installation conditions, delivering accuracy no generic gauge chart can match.



Rapid Field Deployment

Tool-free ground-rod mounting instruments a full fuel point in minutes, supporting high-tempo expeditionary operations.



Continuous Data Integrity

Non-volatile strapping table storage ensures volume calculations are preserved through power interruptions at remote sites.



Reduced Operator Workload

Automated polling, strapping, and volume correction remove manual measurement, lookup tables, and calculations from the operator workflow.



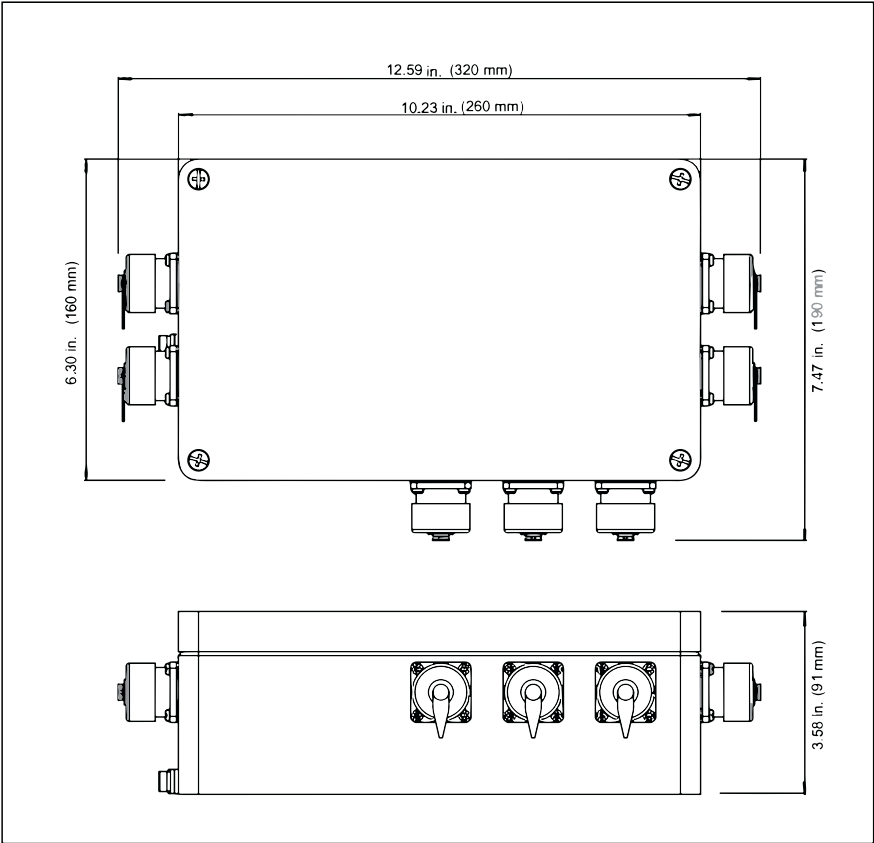
Dual-Region Certification

ISA/CSA and ATEX/IECEX approvals support both North American and international operations from a single hardware platform.

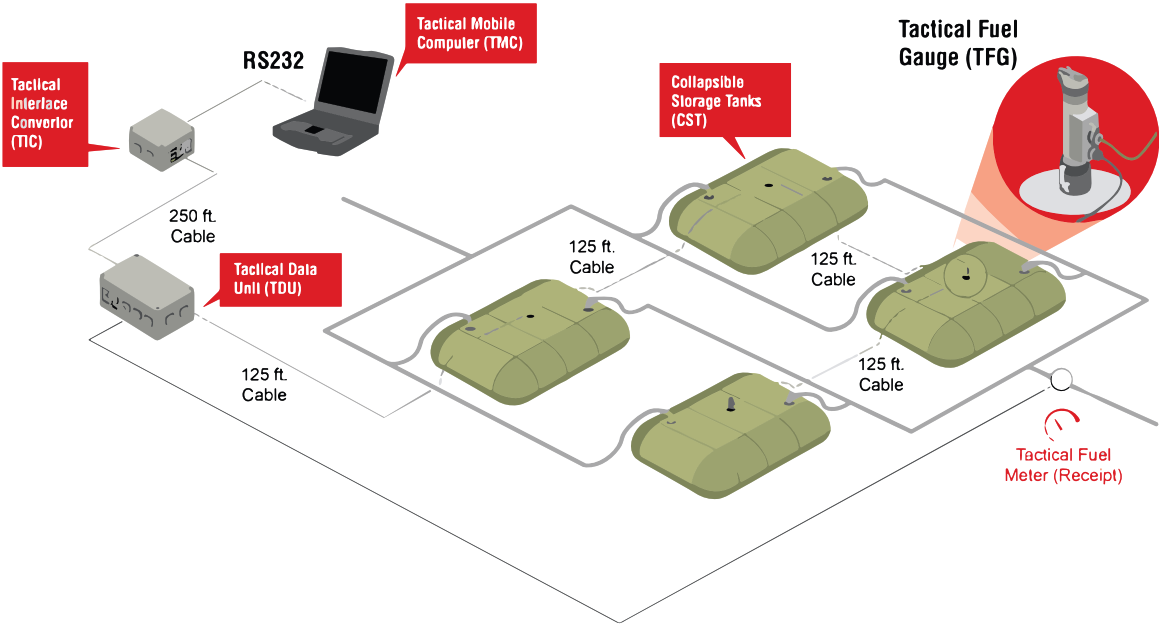
Technical Specifications

Specification	Details
Data Transmission Protocol	Modbus
Connected Field Devices	Up to 4 × 7660 Tactical Fuel Gauges; up to 4 × Tactical Flow Meters
Strapping Table Capacity	Up to 1,000 data points per collapsible storage tank
Volume Correction Standard	API Tables 5b/6b, corrected to 60°F
HART Output	2-position terminal, fused
Pulse Accumulator Channels	2 standard; 4 optional
Pulse Input Voltage Range	3 to 30 VDC
Pulse Frequency Limit	30 kHz
Pulse Input Connection	3-position pluggable terminal block
Power Supply Voltage	8–36 VDC
Power Consumption	25 mA
Environmental Operating Temp.	-40°F to +167°F (-40°C to +75°C)
Humidity	5 to 95% (non-condensing)
Lightning Protection	Solid-state transient voltage suppressors, current-limiting resistors, and fuses
Enclosure	Powder-coated aluminum
Mounting	Wall-mounted or ground rod — no tools required
Dimensions	10.2 × 6.3 × 3.6" (260 × 160 × 90 mm)
Memory	Non-volatile storage for strapping tables and gauge addresses
TDU Scalability	Up to 7 TDUs daisy-chained from a single 8250 TIC; supports up to 28 tanks per system
Hazardous Area Approvals	ISA/CSA: Class 1, Division 2, Groups C and D ATEX/IECEX: Ex II 3(1)G EX nA [ia Ga] IIB T5 Gc (-40°C ≤ Ta ≤ 85°C)
Cable Connections	Military-style quick connects/disconnects
System Integration	Native integration with 7660 TFG via HART; upstream to FuelsManager® via 8250 TIC

Dimensions



Typical System Layout



Model Number Selection

	Pulse Input
0	2 inputs (standard)
1	4 inputs

	Gasket
A	Standard
B	RFI

	Power
A	External

	Mounting
0	Without mounting bracket
1	With mounting bracket

	Coatings
0	No coating
1	Standard Paint

Example Code: N8240-0-A-1-A-1

Summary

A pressure reading tells you where the fuel surface is. The 8240 Tactical Data Unit tells you how much fuel that represents - in a tank that flexes, bulges, and behaves differently every time it is filled and deployed in a new location. That distinction matters when fuel accountability is a command requirement and custody-transfer accuracy is a legal one. The 8240 TDU eliminates the gap between raw field measurement and auditable inventory figure by automatically building a tank-specific gauge chart for every CST, then applying API temperature correction to every reading it takes — with no tools, no manual lookups, and no operator calculation. It does this mounted on a ground rod in a live fuel farm, operating from arctic cold to desert heat, in an atmosphere where fuel vapor is always present. Dual ISA/CSA and ATEX/IECEX certification means the same unit deploys in North America, Europe, and Asia-Pacific without hardware changes.

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