



The "Missing Link" in Rig Connectivity

While many automation providers offer "general industrial" solutions, ICP DAS USA has captured the Permian market by designing hardware specifically for the basin's unique brand of chaos. One in particular, their Modbus TCP to RTU/ASCII gateway with POE is playing a crucial part in the field as the "hidden hero" keeping pumps running, tanks monitored, and data flowing in the west Texan Permian Basin's harsh environment.

In the modern Permian Basin, the "Digital Oilfield" often hits a physical wall: the 300-foot gap between a mud pump's high-precision sensor and the driller's cabin. While today's E&P strategies demand real-time data, the reality on the ground is a mix of legacy serial-based hardware and modern Ethernet networks.

Automation crews often find themselves struggling to sync legacy field assets with modern networks, but the tGW-715 gateway has effectively eliminated that connectivity barrier, serving as the digital bridge for the modern rig.

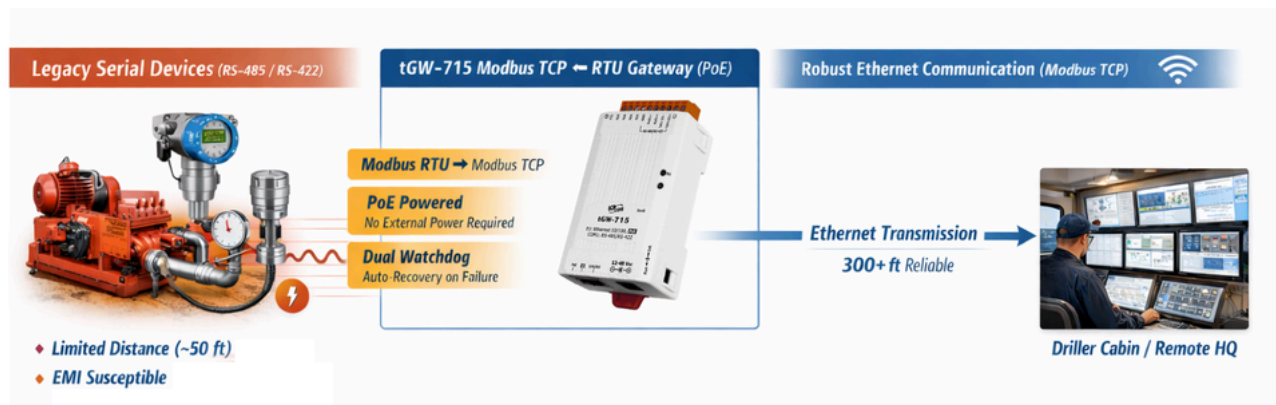
The challenge is simple but costly. High-end sensors (like Coriolis flow meters or power analyzers) typically communicate via Modbus RTU over RS-422 or RS-485. Running these serial lines over long distances across a busy rig site invites electromagnetic interference (EMI) from massive motors and variable frequency drives (VFDs).

ICP DAS USA has captured the Permian market by providing the "secret sauce" to this problem. The tGW-715 tiny Modbus gateway converts those sensitive serial signals into robust Modbus TCP (Ethernet). Instead of expensive, noise-prone copper serial bundles, operators now run a single, shielded Cat5e cable that delivers crystal-clear data across the entire pad.

Why the tGW-715 meets the Permian Standard

it's about surviving the environment.

- **Power over Ethernet (PoE):** On a crowded rig, power outlets are a luxury. The tGW-715 can be powered directly through the Ethernet cable, eliminating the need for extra 24V power supplies in cramped junction boxes.
- **The "Tiny" Factor:** Space is at a premium in explosion-proof enclosures. The tGW-715 is roughly the size of a deck of cards, allowing it to be tucked into existing cabinets without a full redesign.
- **Zero-Maintenance Reliability:** With a built-in Dual Watchdog, the device can detect if a communication line freezes or if a power spike occurs (common during generator swaps). It automatically resets itself, ensuring the data stream to the Houston or Midland HQ never stays dark.



Feature	The tGW-715 Advantage	Impact on Production
Signal Integrity	Converts EMI-sensitive RS-485 to digital Ethernet.	Eliminates "ghost" data and false alarms.
Distance	Extends sensor reach from 50 feet to 300+ feet via LAN.	Allows the driller to monitor the pump from a safe distance.
Ease of Use	Web-based configuration (no specialized software needed).	Field techs can swap or configure units in minutes.
Cost	Replaces expensive multi-conductor serial cable	Reduces rig-up costs and material overhead.

When an hour of downtime costs more than the hardware itself, there is no room for 'experimental' tech. ICP DAS USA has bridged the industry's most critical gap not with complex code, but with ruggedized 'missing link' hardware. By integrating legacy field-bus sensors into modern Ethernet architectures, the tGW-715 provides the structural integrity required for the basin's digital revolution.

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