

CalAmp Solution Brief

Industrial IoT for Specialty Equipment

Purpose-built for Modbus
and CAN bus connectivity



Telematics adoption in construction equipment continues to grow, with most OEMs offering a solution to track equipment, improve maintenance, or recover missing assets. However, extending the full complement of IoT capabilities to specialty equipment with Modbus connectivity is a heavy lift. The need to ensure reliable bidirectional communication, configure and manage devices, and transform raw machine data into a readily usable format requires dedicated resources with specialized expertise.

CalAmp Industrial IoT solves this challenge for diverse specialty equipment including generators, air compressors, pumps, welders, HVAC systems, and more. The solution:

- Centralizes and simplifies configuration of all assets
- Decodes and enriches raw data into structured JSON format
- Streams critical asset data to your platform
- Enables remote commands to assets in the field
- Operates reliably in rugged conditions, employing hardened, award-winning telematics hardware

CalAmp Industrial IoT helps OEMs, equipment rental companies, and telematics solution providers deliver more value for users while improving financial performance and strengthening customer relationships. **For manufacturers specifically, it enables a more complete telematics offering that drives value across the product lifecycle,** impacting:

- Design
- Testing
- Planning
- Revenue
- Cash flow
- Maintenance and support
- Warranty
- Equipment replacement

Solution Components:



HMU-3640LB Hardened Telematics Gateway

Connectivity:

- Global LTE CAT-1 with 3G/2G fallback

Supported Interfaces:

- Modbus
- J1939

Form Factor:

- Dimensions: 7.0" x 3.0" x 1.57"
- Weight: 250 g, 8 oz

Input and Output:

- Dual CAN support
- Serial (RS-232/RS-485)
- Bluetooth Low Energy (BLE 5.2)

Edge Programmability:

- PEG
- EdgeApp32

Environmental:

- Temperature: -30° to + 75° C (connected to primary power)
- Shock and vibration: US MIL-STD 202G & 810F, SAE J1455
- Ingress protection: IP66 and IP67

Modbus Hosted App

Protocol host that drives the Modbus interface to communicate with the asset and collect the data.

Modbus Script

Logic that defines the data stream end points and overall system control.

CalAmp Telematics Cloud platform

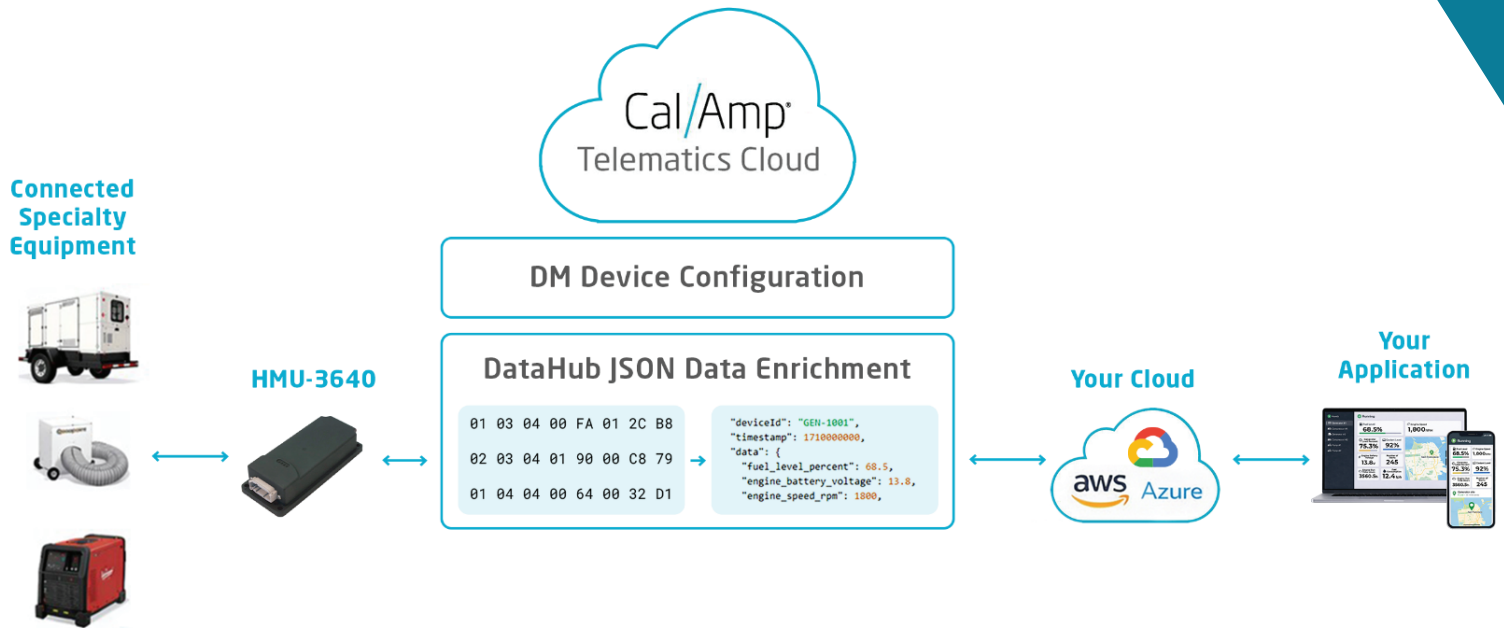
Device Management

Enables import of CSV configuration files and register address mapping setup for each model. Devices are provisioned over-the-air.

DataHub (optional)

- Decodes and enriches machine data into structured JSON format
- Enables remote command execution via API, such as remote start or shutdown.

Accelerate Time to Market



CalAmp Telematics Cloud platform capabilities are designed to save valuable engineering time. Device Management (DM) centralizes and simplifies asset configuration. DataHub enables remote commands to your assets via API and decodes and enriches raw machine data, delivering structured JSON formatted data to your platform.

Drive More Value Across Your Product Lifecycle

Inform design and testing

Eliminate guesswork. Build test plans based on real deployment scenarios, uncover edge cases and failure modes, and focus validation where it matters most.

Reduce downtime and maintenance costs

Automate maintenance based on actual run hours, trigger alerts for faults and service needs, detect misuse like wet stacking, and reduce reliance on onsite inspections.

Maximize asset utilization

Capture data across equipment and job sites to identify underused assets. Help customers avoid unnecessary rentals and specify the right equipment for the job.

Combat theft

Receive curfew and geofence alerts, remotely derate stolen equipment, and recover assets quickly with real-time location tracking.

Drive top-line and bottom-line financial results

Accelerate application development to support recurring revenue. Trigger timely offers for equipment upgrades and service plans based on operational data, optimize warranty programs using accurate deployment and usage information, and improve cash flow by derating equipment to compel payment for delinquent accounts.

Automate and control rentals

Enable self-service rentals by unlocking equipment based on proximity. Track runtime for accurate billing and locate unpaid assets.

To learn more about boosting operational and financial results with CalAmp Industrial IoT, visit:

CalAmp.com/OEM-Solutions

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