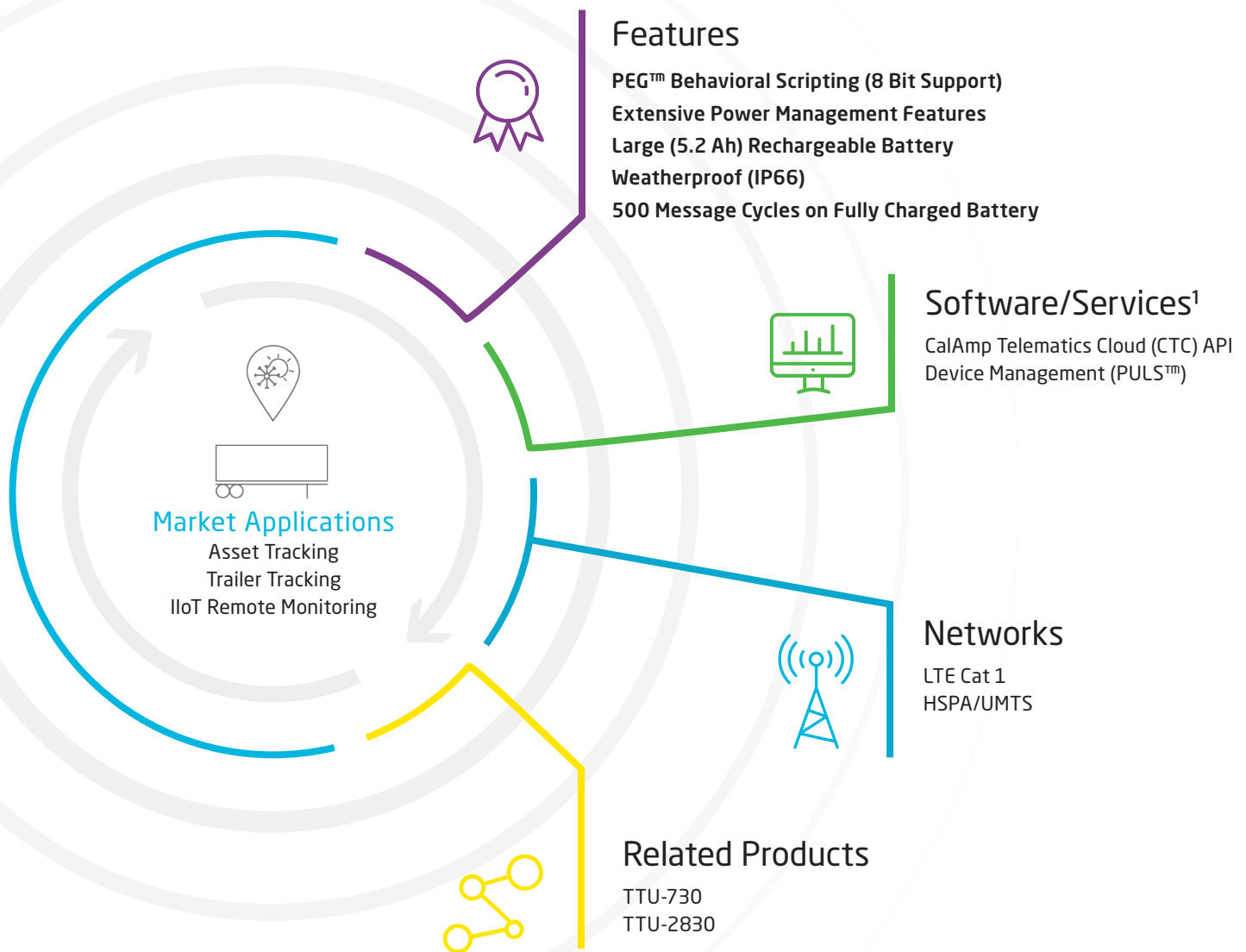


TTU-1230™

Value Driven Asset Tracker Built for Flexibility, with Extensive I/O Capabilities and Excellent Field Reliability



The TTU-1230™ value-based design asset tracking device is built for applications requiring only the essential features and includes a rechargeable battery pack making it an ideal solution for assets that are tethered, but may sit disconnected for periods of time. The captive I/O harness enables a broad array of use cases.



TTU-1230™ Technical Specifications

Cellular/Network

North American Variant I	
LTE Cat 1	1900 (B2)/AWS 1700 (B4)/850 (B5)/700 (B12) MHz
HSPA/UMTS	850 (V)/1900 (II) MHz
North American Variant II	
LTE Cat 1	AWS 1700 (B4)/700 (B13) MHz
Americas Variant	
HSPA/UMTS	850 (V)/1900 (II) MHz
GSM/GPRS	850/1900 MHz
Global Variant	
GSM/GPRS	850/900/1800/1900 MHz

Data Support

SMS, UDP Packet Data

Satellite Location (GNSS)

Constellation Support	Hybrid GPS, SBAS Engine (WAAS, EGNOS, MSAS)
Channels	31 Channel
Tracking Sensitivity	-162 dBm
Acquisition Sensitivity	-156 dBm (hot start) -148 dBm (cold start)
Location Accuracy	~2.0m CEP Open Sky (SBAS 24 hours static)
Location Update Rate	1 Hz

Comprehensive I/O

Ignition Inputs	1 fixed bias
Digital Inputs	2 (high/low bias selectable 0-32 VDC)
Digital Outputs	3 (open collector relay 150mA)
Accelerometer	Built-in, triple-axis (motion sensing, tilt detection)
Serial Interface	1 TTL port multiplexed on input 2, output 2
Status LEDs	2 (GPS, cellular)

Certifications

Industry Certifications	FCC, IC, PTCRB, RoHS
-------------------------	----------------------

Cloud/Software Services¹

PULS™	Monitor, manage, upgrade firmware, configure and troubleshoot devices remotely
CTC	Device data stream via RESTful APIs

Edge Intelligence¹

PEG™	Behavioral scripting (8-bit support)
------	--------------------------------------

Electrical

Operating Voltage	12/24 VDC Vehicle Systems 9-32 VDC (start-up, operating) 7-32 VDC (momentary)
Power Consumption	Typical 1mA @ 12V (deep sleep) Typical 50mA @ 12V (GPS tracking and cell idle)

Battery Pack

Battery Capacity	Up to 5200 mAh
Battery Technology	Lithium-Ion
Charging Temperature	0° to +45° C

Environmental

Temperature	-30° to +60° C (connected to primary power) -20° to +60° C (operating on internal battery) -20° to +25° C ≤ 6 months (long term storage with battery)
Humidity	95% RH @ 50° C non-condensing
Shock and Vibration	U.S. Military Standards 202G, SAEJ1455
ESD	IEC 61000-4-2 (4KV test)
Ingress Protection Rating	IP66

Physical/Design


Dimensions	3.15 x 4.33 x 1.59" (80 x 110 x 40 mm)
Weight	19.5 oz. (553g) (w/ 5200mAh battery and standard harness)

Connectors/SIM Access

GPS Antenna	Internal
Cellular Antenna	Internal
SIM Access	Internal (2FF SIM)

¹ Subscription service enabled. Contact sales rep for additional details.

CALIFORNIA PROPOSITION 65

**WARNING:**

This product can expose you to chemicals including Carbon black and Nickel, which are known to the State of California to cause cancer, and including Bisphenol A and 1,3-Butadiene, which are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov