

# Cal Amp

# TTU-2830

GPRS/CDMA/HSPA Series

6 Month Rechargeable

Trailer Tracking Unit

## EXPERIENCE THE ADVANTAGE

- GSM/GPRS, CDMA 1xRTT or HSPA configurations
- 6 months with single message cycle per day on fully charged battery pack
- IP66 sealed enclosure
- High sensitivity GPS
- 3-axis precision accelerometer for driver behavior and impact detection
- 1 external ADC
- 12/24 volt operation
- 3 Inputs/ 3 Outputs
- 1-Wire interface for driver ID, temperature sensors, and more
- Serial interface
- 20,000 buffered messages
- 32 geo-fences operating
- Over-the-air configuration and firmware updates

The TTU-2830 weatherproof trailer tracking product is designed for reliable, long-term deployments. The TTU-2830's rechargeable battery pack makes it an ideal solution for managing assets that are normally tethered to 12 or 24 volt systems but may sit disconnected for periods of time.

## COMPETITIVE PRICE, COMPETITIVE TECHNOLOGY, COMPETITIVE EDGE

The TTU-2830 high value tracking unit from CalAmp features a small size, superior GPS performance, an internal 5.2 Ah battery and three Inputs/ three Outputs (I/O). The TTU-2830 is a complete vehicle tracking and communications device incorporating next-generation, super-sensitive GPS technology on GPRS, CDMA 1xRTT and HSPA cellular networks for installation in or on any 12 or 24 volt mobile vehicle. Superior internal antennas for both cellular and GPS eliminate the need for wired antennas and make the TTU-2830 mountable virtually anywhere on the vehicle for easy, inexpensive installations. Messages are transported across the cellular network using enhanced SMS or UDP messaging providing a reliable communications link between the device and your application servers. The TTU-2830 is designed for optimal size and power consumption coupled with superior performance and reliability resulting in dramatically reduced cost of ownership.

## FLEXIBILITY

The TTU-2830 employs CalAmp's industry leading on-board alert engine, PEG™ (Programmable Event Generator). This advanced engine monitors external conditions and supports customer-defined expectation-based rules to help meet the needs of your application. PEG continuously monitors the vehicle environment and responds instantaneously to pre-defined threshold conditions related to time, date, motion, location, geo-zone, input, and other event combinations. With PEG, your unique application will meet demanding customer requirements. This behavior can be programmed by CalAmp before shipment at a customer's facility, or over-the-air once the unit has been fielded.

## OVER-THE-AIR SERVICEABILITY

The TTU-2830 also leverages CalAmp's industry leading over-the-air device management and maintenance system, PULS™ (Programming, Updates, and Logistics System). Configuration parameters, PEG rules, and firmware can all be updated over the air. PULS offers out-of-the-box hands free configuration and automatic post-installation upgrades. You can also monitor unit health status across your customers' fleets to quickly identify issues before they become expensive problems.

## TTU-2830 SPECIFICATIONS

### GENERAL

Network Technologies	GSM/GPRS/EDGE/HSPA and CDMA 1xRTT
Data Modes	UDP packet data and SMS
Operating Voltage	12 and 24 volt vehicle systems

### GPS

Location Technology	GPS; GLONASS and QZSS capable
Enhancement Technology	SBAS: WAAS, EGNOS, MSAS
Receiver Type	56 channels
Tracking Sensitivity	-162 dBm
Acquisition Sensitivity	-148 dBm
Location Accuracy	2.0m CEP
Location Update Rate	up to 10 Hz
Anti-jamming	
AGPS / Location assistance capable	

### BATTERY PACK

Battery Capacity	5.2 amp hour
Battery Voltage	3.7 volts
Battery Technology	Lithium ion (see online technical specifications for latest details regarding battery options)

### CELLULAR

Data Support	SMS, GPRS, CDMA, 1xRTT or HSPA packet data	
Operating Bands (MHz)		
GSM/GPRS	850/900/1800/1900	
CDMA/1XRTT	850/1900	
HSPA/UMTS	800(VII)/850(V)/900(VII)/1700(IV)/1900(II)/2100(I)	
Transmitted Power		
GSM/GPRS	850/900	32.5 dBm
	1800/1900	29.3 dBm
	850	24 dBm
CDMA/1XRTT	800	24 dBm
	1900	23dBm
HSPA/UMTS	(all bands)	23 dBm
HSPA data rates	5.6 Mbps upload/ 7.2 Mbps download	
HSPA Fallback	EDGE/GPRS/GSM quad band EDGE MCS1-MCS9 3GPP Release 6	

### COMPREHENSIVE I/O

Digital Inputs	3 (1 fixed, 2 programmable bias) 1-Wire™ Interface
Digital Outputs	3 open collector (150mA)
Analog Input	1 External ADC input
Status LED's	GPS and Cellular

### ENVIRONMENTAL

Temperature*	-30° to +75° C (connected to primary power) -40° to +85° C (storage) Except Battery*
Humidity	95%RH @ 50° C non-condensing
Shock and Vibration	U.S. Military Standards 202G and 810F, SAE J1455
EMC/EMI	SAE J1113; FCC-Part 15B; Industry Canada

### ELECTRICAL

Operating Voltage	9-32 VDC (start up, operating) 7-32 VDC (momentary)
Power Consumption	Typical 500uA @ 12V (deep sleep) Typical 13mA @ 12V (radio-active sleep) Typical 41mA @ 12V (SMS+UDP connection, GPS off) Typical 86mA @ 12V (continuous tracking)

### PHYSICAL

Dimensions	2.15 x 4.33 x 1.59", (54 x 110 x 40.4mm)
Weight	12 oz / 340 g (with harness)

### CONNECTORS, SIM ACCESS

SIM Access	Internal
Interface	12 wire captive harness

### MOUNTING

Screw Mount, Magnet Mount, Tie Wrap

### KEY FEATURES

- 6 months with single message cycle per day on fully charged batteries.
- 5.2 Ah lithium ion rechargeable battery pack
- IP66 sealed enclosure
- Packet data (GPRS, CDMA 1xRTT, or HSPA) and SMS-based messaging
- Internal GSM and GPS antennas
- Super sensitive GPS tracking
- Ultra-low power save mode
- 3-axis accelerometer for motion, hard backing/acceleration, and impact detection
- 3 inputs and 3 outputs
- External ADC input
- 1-Wire™ Bus interface for temp sensor(s)
- Voltage monitoring and low battery notification
- 20,000 buffered messages for data logging during coverage loss
- 32 built-in geo-fences (and 5400 vertices for polygon zones)
- PEG™ Exception-Based Rules
- Automatic, Over-The-Air Unit configuration on Power-up (PULS™)
- Over-The-Air Firmware Download (PULS™)
- Web-Based Device Management (PULS™)
- OBDII ECU interface support (option)
- Serial port (TTL Level)

### DEVELOPMENT SUPPORT OPTIONS

Customized hardware and software development available on request

### CERTIFICATIONS

Fully certified FCC, CE, IC, PTCRB, Applicable Carriers