



AL200

ALERT2 Encoder, Modulator, and Sensor Interface



ALERT2 Ready

Improved accuracy and performance for flood warning systems

Overview

The AL200 is an ALERT2 encoder and modulator that supports ALERT2 and ALERT-concentration services. It meets the ALERT2 standards maintained by National Hydrologic Warning Council (NHWC) and ALERT Users Group (AUG). ALERT2 improves the accuracy and performance of flood warning systems and software, by providing you with faster data transfer, forward error correction, and a TDMA architecture.

With integrated sensor inputs, the AL200 allows you to create a minimal ALERT2 transmitter/station, decreasing the cost of a typical flood warning system. Combining the AL200 with a Campbell Scientific data logger provides enhanced sensor support, user-defined logic and control, and data logging capabilities.

Benefits and Features

- ▶ Easily configurable with graphical, point-and-click software
- ▶ Integrated sensor inputs for greatly reduced station cost
- ▶ Onboard measurement of supply voltage, clock/GPS quality
- ▶ Event or schedule driven reports for battery, clock, tipping bucket, voltage, current, SDI-12, high/low state
- ▶ Screw terminals for power, radio, and sensors for easy cabling
- ▶ Easy access test features for transmission, radio power, and alignment
- ▶ Support of encrypted ALERT2 messages; support of 250-millisecond slots

Detailed Description

Channels Available and Their Functions

- ▶ P1: Tipping Bucket / Switch Closure Count Accumulator
- ▶ SE1: Single-ended Analog Input, millivolt or milliamp
- ▶ C1: Digital for limited SDI-12
- ▶ SW12: Switched power for powering sensors

- ▶ G: Ground

ALERT2 Reporting

When used standalone, the AL200 can generate time and event driven reports for Battery, Clock Status, Tipping Bucket, Analog Input (mV or mA), Digital (SDI-12).



Specifications

Power Connector	Two-wire, 0.15-in. pitch removable terminal (reverse polarity protected)
Power Requirements	9 to 18 Vdc
Configuration	Device Configuration Utility over USB (settable modulation levels using Device Configuration Utility)
LEDs	GPS, Serial, Radio (RS-232 and CS I/O share serial activity LED.)
CS I/O Port	SDC 7, 8,10, or 11 (multiplexed with on-board sensor interface)
RS-232 Port	DCE
USB Port	Micro-B
Temperature Range	-40° to +60°C
Communication Rate	› 9600 to 57,600 bps (CS I/O Port) › 1200 to 115,200 bps (RS-232 DCE Port)
Current Drain	› 1.5 mA (@ 12 Vdc when idle) › 40 mA (@ 12 Vdc during GPS fix) › 35 mA (@12 Vdc during transmit)
Timekeeping Setting via GPS	±61 µs
Drift	±0.17 s/day (without GPS sync, 40°C temperature change)
Analog Input (SE1) Sensor Interface	0 to 5 Vdc (16-bit ADC; millivolt or 4 to 20 mA selectable)
Protocols Supported	ALERT(1) and ALERT2
SMA Connector	Active GPS antenna
Test Button	Test transmit and tone

Dimensions 16 x 7.7 x 2.2 cm (6.3 x 3.0 x 0.9 in.)

Sensor Interface

Channels Available	Switch closure (P1), single-ended analog (SE1), limited SDI-12 (C1), switched 12 V, ground
Analog input (SE1)	0 to 5 Vdc, 16-bit Adc (millivolt or 4 to 20 mA selectable)

Radio Interface

Channels Available	TX, PTT, switched battery, ground
RCFSK Modulation	100 to 1000 mV, ±50 mV (software selectable)

Standards

ALERT2	ALERT2 IND API Specification Version 2.0 (as released by the ALERT2 Technical Working Group dated June 2020)
Compliance	RoHS and CE
Product Standard	EN 61326-1:2013
Test Standards	› CIPSR 11, Class B Emission › IEC 61000-4-5, Surge Immunity › IEC 61000-4-6, Conducted RF Immunity › IEC 61000-4-2, Electrostatic Discharge Immunity › IEC 61000-4-3, Radiated RF Immunity › IEC 61000-4-4, Electrical Fast Transients Immunity

For comprehensive details, visit: www.campbellsci.com/al200 



Campbell Scientific, Inc. | 815 W 1800 N | Logan, UT 84321-1784 | (435) 227-9120 | www.campbellsci.com
AUSTRALIA | BRAZIL | CANADA | CHINA | COSTA RICA | FRANCE | GERMANY | INDIA | SOUTH AFRICA | SPAIN | THAILAND | UK | USA

© 2023 Campbell Scientific, Inc. | 12/27/2023