

Detailed Description

Terminal Descriptions

- SE1: One single-ended analog input to measure 0 to 5 Vdc or 4 to 20 mA sensors
- P1: One pulse port for measuring tipping bucket rain gauges
- C1, C2, and C3: Three digital I/O control ports that can be configured for SDI-12 as separate buses (standard and watch modes), digital input, or digital output
- SW12A and SW12B: Two switched 12 Vdc power outputs that can be programmed to power sensors on and off
- G: Two grounding ports

Operating Modes

The AL200X can be configured to operate in measurement and control mode as a stand-alone device or in Intelligent Network Device (IND) mode to connect to an external device, such as a data logger.

- The measurement and control mode activates the sensor input and output ports to operate as an ALERT2 transmitter.
- The IND mode allows connection to a data logger through the COM1 RS-232 interface for expanded sensor and telemetry device support.

Both configuration modes use the integrated radio and GPS interfaces.

Configuration

Easily configure the AL200X with the familiar [Device Configuration \(DevConfig\) software utility](#). The intuitive user interface enables you to easily set up and maintain a station, spending less time in the field. You can configure the sensor input and output in either basic or advanced mode, providing flexible control over the device. The provided data monitor helps you view the current system data and the past three measurements. The command terminal offers powerful control over the AL200X, enabling access to raw sensor traffic, data logs, and SDI-12 sensor configuration, in addition to other features.

Specifications

Operating Temperature	<ul style="list-style-type: none">-40° to +60°C (-40° to +140°F)Non-condensing environment	Digital I/O	<ul style="list-style-type: none">Three terminals (C1 to C3) configurable for digital input, output, or SDI-12Up to three independent SDI-12 channels0 to 5 Vdc digital I/O, 200 kΩ pull-down
Case Material	Anodized aluminum	Switched 12 Volt	<ul style="list-style-type: none">Two terminalsCurrent limit 0.9 A @ +20°C per terminalReverse polarity protected
Analog Input	<ul style="list-style-type: none">One single-ended (SE1), selectable 0 to 5 Vdc or 4 to 20 mA16-bit ADC resolution	Communications Ports	<ul style="list-style-type: none">USB-CRS-232 (COM1)
Pulse Counter	<ul style="list-style-type: none">One pulse or switch closure (P1) with 16-bit counter100 Hz maximum count rate, 100 kΩ pull-up to 5 Vdc	Power Requirements	<ul style="list-style-type: none">9 to 18 Vdc inputReverse polarity protected



Specifications

Current Drain	<ul style="list-style-type: none">6.8 mA (@ 12 Vdc average when idle)+ 19 mA additional (@ 12 Vdc GPS active with typical 20 mA GPS antenna)+ 7 mA additional (@ 12 Vdc during transmit)	Data Storage	128 MB on-board flash
GPS Antenna Connection	<ul style="list-style-type: none">SMA socket connectorActive or inactive antennas supported, 25 dB max gainActive antenna power 3.2 Vdc @ 50 mA (maximum)	Test Button	Initiates a 1 kHz transmit tone or self-report transmission
System Timekeeping	<ul style="list-style-type: none">60 PPB (0.06 PPM) clock drift typical (-40° to +60°C)Internal UTC accuracy of 5 ms/day without continuous GPS synchronization derived from a precision TCXO tracking loop	Dimensions	15.9 x 7.7 x 2.8 cm (6.3 x 3.0 x 1.09 in.)
Radio Interface	<ul style="list-style-type: none">ALERT2 communications protocolTx audio, PTT, switched power, groundTx audio level adjustable from 100 to 1,000 mVppProgrammable warm-up, carrier only, Automatic Gain Control (AGC), and RF tail time intervals	Weight	249 g (0.55 lb)
Standards			
ALERT2	<ul style="list-style-type: none">IND API specification v2.1 draftAirLink v1.2 draftMANT v1.2Application Layer Protocol v1.3, rev. E		
Compliance	<ul style="list-style-type: none">RoHS 2: EN IEC 63000:2018Emissions: FCC Part 15		

