



AeroX Stream 200

AWOS Field-Ready System



Rugged and Modular Design

Accommodates a variety of sensors, communication peripherals, and power options for reliability in extreme conditions

Overview

For an Automated Weather Observing System (AWOS), the Field Data Collection Unit (FDCU) serves as a critical juncture between the sensors out in the field and the data processing unit (DPU). Thus, the FDCU, named AeroX™Stream 200, collects all the data from the various meteorological sensors and sends the data to the DPU for processing and distribution. Furthermore, the AeroX Stream 200 manages the power distribution to each of these sensors and provides a battery backup in the event that the mains power goes out.

Components of the AeroX Stream 200 include a stainless-steel enclosure, data logger, AC to DC power supply, backup battery, transient protection, circuit breakers, maintenance port,

barometer(s), data communications, and optional heating. The AeroX Stream 200 is built predominantly of commercial-off-the-shelf (COTS) components, and many of the components are attached via a DIN rail or on the gridded backplate for ease of manufacturing, maintenance, and service.

With the Campbell Scientific data logger at its core, the AeroX Stream 200 has the flexibility and capacity to add both analog and serial sensors that are new or provided by other manufacturers. This sensor flexibility facilitates platform expansion if needs or budgets change.

Benefits and Features

- › Reliable design with the proven CR1000X datalogger at its core
- › Sensor agnostic on a flexible platform that incorporates commercial-off-the-shelf (COTS) parts
- › Versatile to be paired with a variety of communication modules, such as fiber optic, spread-spectrum radio, VHF/ UHF radio, serial (RS-232 or RS-484), or Ethernet
- › Various configurations to ensure reliable operations globally
- › Rugged and weather-resistant stainless-steel enclosure
- › Simple manufacturing, service, and maintenance that uses DIN rail and diamond plate mounting for easy parts replacement and future upgrades
- › Integrated laptop shelf for field service and calibration equipment
- › Optional 400 W enclosure heater for cold climates

Detailed Description

Power is provided from a 110 to 240 Vac, 45 to 65 Hz, single-

phase power source. This AC power flows through a series of



transient and surge protections to a 24 Vdc power supply that distributes power to the sensors, communication peripherals, data logger, and battery. These different levels of transient protection defend the system against lightning strikes and unexpected power surges. In the event that the airport’s mains power goes down, the AeroX Stream 200 contains an

uninterruptable power supply (UPS) system that can provide three to six hours of backup power, depending on sensor and communication configuration. This estimate is based on a full serial sensor load (12 to 13) with no heaters. For many applications, this full load will not be used, and the backup power will be longer.

Specifications

Enclosure Classification	NEMA Type 3R, 4X, 12, and 13
Enclosure Material	Stainless steel
Input Power	110 to 240 Vac, 45 to 65 Hz, single phase
Serial Inputs	Up to 10 with standard configurations
Analog Inputs	<div>» 16 single-ended or 8 differential (individually configured)</div> <div>» Four analog inputs can provide pulse/digital I/O functions.</div>

	<div>» Two analog inputs can measure 4 to 20 mA or 0 to 20 mA natively.</div>
Pulse Inputs	10 (P1 to P2 and C1 to C8)
Voltage Excitation Terminals	4 (VX1 to VX4)
Enclosure Compliance	<div>» 2014/30EU EMC directive</div> <div>» EN 61326-1:2013</div> <div>» CE certification</div>
Enclosure Dimensions	61 x 76 x 20 cm (24 x 30 x 8 in.)

