



## SCAA

Stand-Alone ASOS/AWOS



## Perfect for Aviation Applications

A single cabinet connected to sensors and external data sources

### Overview

The Stand-Alone ASOS/AWOS, or SCAA, is a data collection package consisting of power distribution and control circuitry, as well as data collection and dissemination circuitry. The system is housed in an aluminum, powder-coated enclosure. Typically, the SCAA consists of a single cabinet connected to sensors and external data sources. A single data collection platform (DCP) may also be used with the SCAA.

The SCAA continuously gathers and processes raw data from the adjacent sensors (e.g., voltages, extinction coefficients, data counts) and may condition these data. Data conditioning may include such processes as sampling, formatting, and scaling.

For information on how the National Weather Service (NWS) uses Campbell Scientific Automated Surface Observing System (ASOS) solutions, visit <https://www.weather.gov/asos/CurrentEvents.html>.

### Benefits and Features

- › Able to acquire data from up to 15 directly connected sensors
- › AeroX™ Audio 105 Audio Controller included for digital voice file transmission over ATIS, dial-up voice modem, GTA radio integration, or ATC handset
- › System diagnostics visibility through CampbellAero™ Automated Weather Observing System (AWOS) software's user interface
- › Hot standby redundant embedded controllers with auto failover capability to increase system uptime
- › Simplified replacement via configuration files moving from backup controller to replacement controller
- › Redundant 24 Vdc power supplying two serial servers
- › CR1000X Measurement and Control Datalogger included for sensor integration and system diagnostics
- › FIPS-compliant access point for TCP/IP communications
- › 2,000 W UPS for battery backup power

### Specifications

Operating Temperature Range    -60° to +120°F

Operating Humidity Range    0 to 100% RH

Wind Loading    Up to 231.75 km/h (144 mph)

IP Rating	IP66
Solar Insolation Rating	90 W/ft <sup>2</sup> at 120°F
Pressure Rating	Up to 15.7 inHg

## Mechanical

Single Cabinet Design	<ul style="list-style-type: none"> <li>» Drop-in replacement cabinet for legacy SCAs</li> <li>» SLEP 1.0 enclosure dimensions</li> </ul>
Internal Mounting Arrangements	<ul style="list-style-type: none"> <li>» 48.26 cm (19 in.) rack mounting</li> <li>» Keyed hole panel mounting</li> <li>» DIN rail mounting for system components</li> </ul>
Hot Standby Redundant Controllers	<ul style="list-style-type: none"> <li>» Auto failover</li> <li>» Auto configuration file transfer</li> </ul>
Serial Servers	<ul style="list-style-type: none"> <li>» Server 2: RS-232, RS-422, RS-485</li> <li>» Server 1: RS-232 only</li> </ul>
Provided by the CR1000X Datalogger	SDM-SI02R modules
TCP/IP Communications	<ul style="list-style-type: none"> <li>» Technician interface</li> <li>» Embedded controllers</li> <li>» Future communications compatible (LTE, satellite)</li> <li>» FIPS-compliant switching</li> </ul>
Provided by the AeroX Audio 105	<ul style="list-style-type: none"> <li>» ATC handset capability</li> <li>» GTA radio</li> <li>» Dial-up voice modem</li> <li>» ATIS</li> </ul>
HDLC	Allows ACU to output HDLC for ADAS
Expansion Capability	Sensor expansion modules
Critical Component Field Replacement	<ul style="list-style-type: none"> <li>» Data logger</li> <li>» Ethernet switch</li> </ul>

- » AeroX Audio 105
- » UPS
- » Radio
- » Embedded controllers
- » Port servers
- » Power supplies

## Electrical

Power	<ul style="list-style-type: none"> <li>» Mains filtering</li> <li>» Overvoltage protection for power distribution</li> <li>» 48 Vdc battery array</li> <li>» 24 Vdc 20 A AC/DC power supplies</li> <li>» 110 Vac mains power</li> <li>» Redundancy for 24 Vdc power supply</li> <li>» Monitored through CampbellAero AWOS software</li> </ul>
Expansion Power Supply Option	<ul style="list-style-type: none"> <li>» 2,000 W UPS backup battery</li> <li>» Circuit breaker panel with power distribution terminal blocks</li> <li>» 5 Vdc power adapter</li> <li>» 12 Vdc power adapter</li> </ul>

## Electromagnetic Compatibility (EMC)

Immunity	<ul style="list-style-type: none"> <li>» RS103 (Radiated RF Immunity)</li> <li>» IEC 61000-4-2 (ESD)</li> <li>» IEC 61000-4-11 (Power Quality)</li> <li>» IEC 61000-4-6 (Conducted RF Immunity)</li> <li>» IEC 61000-4-5 (Surge)</li> <li>» IEC 61000-4-4 (EFT)</li> </ul>
Radiated and Conducted Emissions	47 CFR Part 15

For comprehensive details, visit: [www.campbellsci.com/scaa](http://www.campbellsci.com/scaa) 



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