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MicroServer Interfaces

Part Number: 9590

Revision F – 1/2/2026

Purpose:

This document outlines all the available ports and interfaces on the Weather MicroServer and the protection in place to prevent access to sensitive areas of the operating system or the upload of malicious code.

Description:

The Weather MicroServer is a single board computer running Linux based firmware with a browser user interface.

The MicroServer has the following hardware ports:

1. Ethernet Port
2. Three DB-9 RS-232 Serial Ports (COM 1, COM3, & COM4)
3. One DB-9 RS-232/485 Serial Port (COM2)
4. Three RS-485 Serial ports (COM5, COM6, & COM7)
5. Two USB Ports
6. microSD Card slot (compatible with 8 or 16GB microSD Card)

Ethernet Port:

Browser user interface is available over TCP/IP Port 80. This interface is protected by a username and password.

Access to the operating system is not available through the browser user interface.

Firmware upgrade files are compressed and protected with a security password.

Ethernet Industrial Interfaces:

Modbus interface is available over TCP/IP Port 502

SNMPv3 interface is available over UDP Port 161. SNMPv3 interface incorporates SHA1 authentication and AES or DES encryption option with a user definable user name and password.

BACnet interface is available on UDP Port 47808

DNP3 Ethernet interface is available on TCP/IP Port 20000

Serial Ports COM1, COM2 & COM3:

Used only for sensor communication. No access to operating system.

Serial Port COM2:

Used for sensor communication and weather data output.

No access to operating system in Run Mode.

USB Ports:

Used for development only.

microSD Card:

For weather data storage only. Must be read and formatted through device.

System Hardening Techniques:

Use a robust password for the browser user interface.

A robust password should contain at least ten (10) characters, including at least one upper case letter, at least one lower case letter, at least one symbol, and at least one number.

The browser user interface password should be only given to authorized personnel.

Firmware:

Latest Firmware Version: 4.2.15082 released 12/16/2025

Recent Security Improvements: Removed unused code and features

Updated to PHP Version 8.3.28, nginx Version 1.29.3

Email support@columbiaweather.com to check for firmware upgrades.