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Network Security

Weather MicroServer

Part Numbers 9590 and 9590-1

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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.

This document is intended to help with the implementation of CIP-007-5 Part 3.1: Deploy method(s) to deter, detect, or prevent malicious code and Part 3.2: Mitigate the threat of detected 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. Two RS-232 Serial Ports (COM 1 and COM3)
3. One RS-232/485 Serial Port (COM2)
4. Two USB Ports

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.

Factory SSH access is protected by a security key authentication.

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 and 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 firmware upgrades only.

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 on 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 personal.