

REVISION	CHANGE	APPROVED	DATE
1	Published release	JTS	29/05/2025
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ASI-7-2-4

DOWNLOADING CONTROLLER DIAGNOSTICS (PROPELLER LOG FILES)

PROCEDURE

AC300Diagnostics version 10.004 27 Dec 2024

Airmaster

Serial Connect Status Datafile -Multi Password

Run 11 Start Time 4/02/2025 Run Time 0:15:30

AC200 Version AC200 V5H.10.118

Run statistics

	Total			This Run		
	RPM Active	Motor Active	Percent	RPM Active	Motor Active	Percent
Total	0:22:37	0:07:32	33.3	0:02:44	0:00:46	28.0
Manual	0:00:51	0:02:59	351.0	0:00:26	0:00:05	19.2
Takeoff	0:07:53	0:01:17	16.3	0:00:39	0:00:03	7.7
Climb	0:06:28	0:00:49	12.6	0:00:28	0:00:02	7.1
Cruise	0:02:28	0:00:28	18.9	0:00:23	0:00:09	39.1
Hold	0:03:02	0:00:51	28.0	0:00:48	0:00:25	52.1
Other	0:01:55	0:01:02	53.9	0:00:00	0:00:00	0.0

Log Menu Save 5Mb log data View Program Data

Status

Loading diagnostics from: A:\3 Production\3.1 Product & Parts\3.1.3 Controllers\3.1.3.1 Records of Controller\Log files Final test\N14174 HSN 2736 CSN 2938 Faulty.dat
Data file is type MULTI

Error information

	Total	This Run
Watchdog	Count 0	Count
Abort	Count 0	Count

	Total	This Run
OverCurrent	Count 2 Time 0:00:31	Count Time
OpenCircuit	Count 0 Time 0:00:00	Count Time

Error table

	Last Error	Previous Error	Oldest Error
Error number			
Run number			
RPM time			
Count			
Mode			
Set Speed			
Actual Speed			
Control State			
Control Output			
Drive State			
Motor Current			
LED Status			
Drive			
Stop			

SUBJECT:

Service & Maintenance

ASSEMBLY NO:

A0110x or A0170x

APPLICABILITY:

AC200 controller hardware
versions 5 and up only.
All AC300 versions.

1. TOPIC

1.1 Introduction

This document covers the procedure for downloading and viewing the diagnostic data (often referred to as 'log files') from an Airmaster controller.

AC200 controllers that are hardware version 5 or higher, as well as all AC300 controllers (for DSD propeller models) incorporate a diagnostic module that records all propeller activity and statistics (like a 'black box'). This data may be useful for troubleshooting faults or improving propeller tuning.

Diagnostic data is accessed using Airmaster software running on a MS Windows PC; a laptop is recommended so that it may be taken to the controller inside the cockpit. The controller is connected to the PC using the dedicated USB-serial cable (A0117) supplied with the propeller.

Note For more information on interpreting the propeller log files, refer to **ASI-7-3-6**.

1.2 Prerequisites



Complete the following tasks before proceeding with this instruction:

- Check PC is updated to include .NET Framework 3.5
<https://www.microsoft.com/en-us/download/details.aspx?id=21>
- For AC200 controllers, ensure that controller hardware is version 5 or higher.



Note The controller hardware version is recorded in the 'ACx00 Controller Firmware & Parameters Sheet' (found in the propeller assembly drawings booklet) as the first number in "Hardware Build State".

2. MATERIAL REQUIREMENTS

2.1 Parts

ITEM	QTY	PART NO.	DESCRIPTION	IMAGE
1.	1	A0117	USB-Serial Cable	
2.	1	A0110x or A0170x	AC200 or AC300 Controller	

2.2 Tooling

ITEM	QTY	DESCRIPTION	IMAGE
1.	1	MS Windows Laptop	
2.	-	Airmaster Diagnostic Program (.exe)	

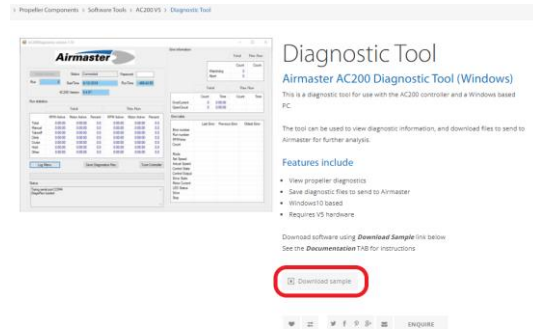
3. PROCEDURE

3.1 Download Airmaster Diagnostic Program

PROCEDURE

Step 1 Download Diagnostic Program

- Download the applicable Airmaster Diagnostic Program from the Airmaster website:
 - AC200 controller (v5 only):
<https://www.propellor.com/diagnostic-tool>
 - AC300 controller:
<https://propellor.com/ac300-diagnostic-tool>



Note

This program is only compatible with Microsoft Windows operating systems.

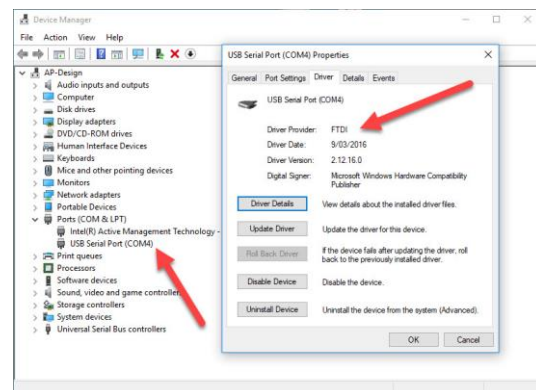
Step 2 Install USB Driver (As Required)

- When the USB-serial cable is connected to a PC for the first time, the required USB driver may need to be downloaded as follows:

Note

This is typically completed automatically on Windows 10 operating systems.

- Visit the link below and download the “Setup Executable” for your OS:
<https://www.ftdichip.com/Drivers/VCP.htm>
- Open the setup .zip file and choose a convenient folder to unzip the executable.
- Confirm, accept, and finish the extraction.
- Check the COM port assigned to the USB-serial cable on PC: Control Panel > Device Manager > USB Serial Port > Driver.

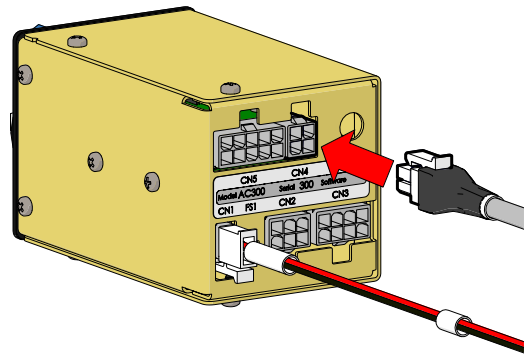


3.2 Download Diagnostic Data

PROCEDURE

Step 1 Connect Controller to PC

- Plug USB-Serial cable (A0117) into USB port on PC.
- Plug USB-serial cable (4-way connector) into rear of AC300 controller [CN4].
- Turn on power supply to controller by turning on aircraft power.



Step 2 Run Application

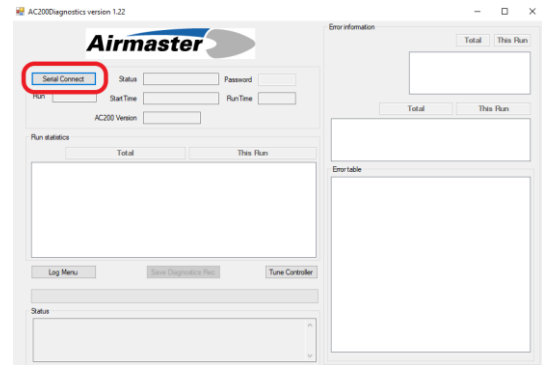
- Run the Airmaster Diagnostic Program.
- Press 'Serial Connect'.

Note

A warning window may appear before opening the program. This is normal, select More Info > Run Anyway.

Note

This program can't be run if another Airmaster application is running and accessing the same COM port assigned to the USB-serial cable.



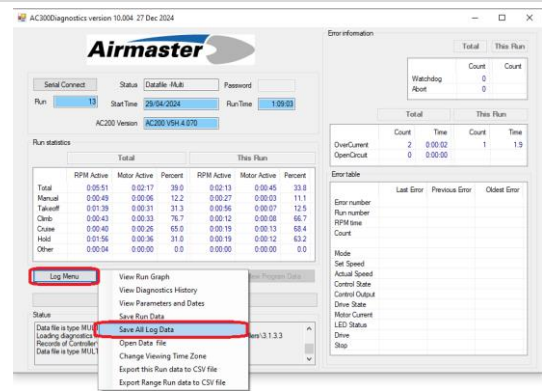
Step 3 Download All Log Files (As Required)

- Download all diagnostic data saved to the controller:

Log Menu > Save All Log Data > Yes > Save

Note

E-mail the resultant (.dat) file to Airmaster for review if troubleshooting assistance is required.



3.3 View Diagnostic File

PROCEDURE

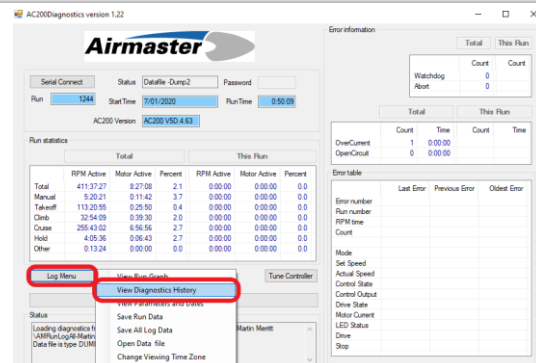
Step 1 Open Log File History

- Within the Airmaster Diagnostic Program, select a log file from the diagnostics history menu:

Log Menu > View Diagnostics History.

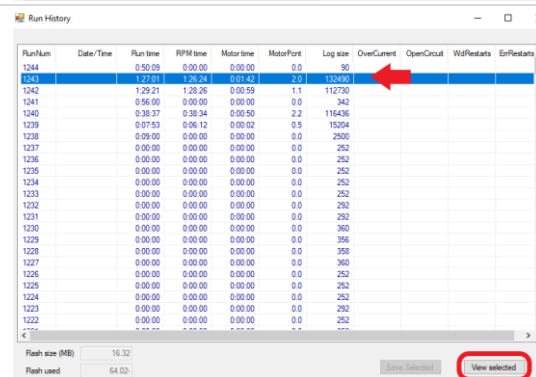
Note

Contact Airmaster if log data history can't be accessed.



Step 2 Select Log File

- Select a recorded log file from the history list.
- Press 'View selected'.



Step 3 View Log File

- Open the selected log file:

Log Menu > View Run Graph.

