

General Description

The VISIONAIRtronics UAV Engine Starter is designed to start internal combustion engines up to 150cc in size, depending on the compression characteristics of the engine. It is small, lightweight, and delivers rapid and reliable engine starting without the use of decompression valves.

The engine starter drives the BLDC alternator as a motor in order to start the engine. Once the engine is running the starter disconnects itself from the BLDC alternator to allow electrical power generation.

Engine starting can be initiated by push-button as well as CAN or RS232 command. In-flight restarts are possible with CAN or RS232 commands.

A suitable BLDC alternator fitted with Hall sensors is required.

Features

- Rapid and reliable starting. 1500RPM is typically achieved in under 0.5 Seconds.
- Maximum torque available from standstill.
- Operates from battery voltages of 25 to 55VDC. Tolerates generated 3-phase voltages up to 140VAC.
- CAN, RS232 and USB connectivity.
- Comprehensive front-panel diagnostics to aid integration and commissioning.
- User-friendly configuration software, with integrated graphing and logging to optimise and verify performance.

Specifications in brief

Electrical:

Battery voltage	25 to 55 VDC
Time to start	400mS (typical, 150cc engine, well-optimised system)
Cranking speed	500 – 2500 RPM (user-configurable)
Torque	20Nm (typical, varies with BLDC alternator)
BLDC pole count	2 – 20 poles (1 – 10 pole pairs)
BLDC alternator voltage	Tolerates up to 140VAC _{PEAK}
Communications protocols	RS232 (57600 8N1), CAN (1Mb/S)

Miscellaneous:

Environmental protection class	IP50
Operating temperature range	-40 to +85°C
Altitude rating	10,000m
Dimensions	92 x 79 x 20mm
Weight	200g