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## TYPE-CERTIFICATE DATA SHEET

No. EASA.E.234

**For type**

E-811

Engine

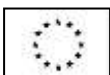
**Type Certificate Holder**

Pipistrel Vertical Solutions d.o.o.

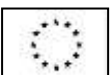
Vipavska cesta 2  
5270 Ajdovščina  
Slovenia

For Model:

268MVLC

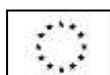


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## **I. General**

### **1. Type / Models**

Type: E-811  
Model: 268MVLC

### **2. Type Certificate Holder**

Pipistrel Vertical Solutions d.o.o.

Vipavska cesta 2  
5270 Ajdovščina  
Slovenia

Design Organisation Approval No.: EASA.21J.524

### **3. Manufacturer**

Pipistrel d.o.o.

Goriška cesta 50a  
5270 Ajdovščina  
Slovenia

Production Organisation Approval No.: SI.21G.0002

### **4. Date of Application**

28 December 2017

### **5. EASA Type Certification Date**

18 May 2020

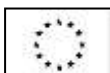
## **II. Certification Basis**

### **1. State of Design Authority Certification Basis**

N/A

### **2. Reference Date for determining the applicable airworthiness requirements**

28 December 2017



### 3. EASA Certification Basis

#### 3.1. Airworthiness Standards

CS-22, Subpart H, Amendment 2

#### 3.2. Special Conditions (SC)

SC E-1 - Electrical Engine for powered sailplanes, LSA or VLA

#### 3.3. Equivalent Safety Findings (ESF)

None

#### 3.4. Deviations

None

#### 3.5. Environmental Protection

Not applicable for electrical engine

### III. Technical Characteristics

#### 1. Type Design Definition

Master Drawing List no. DWG- 811-02-40-001

#### 2. Description

The engine is an electric motor associated to its controller (*a power electronics unit*). E-811-268MVL engine combines a 268 MV LC VHML motor and a dedicated H300C power-electronics. System contains coolant input, communication bus connection, 12V power supply and high voltage bus located on power-electronics and coolant output located on the motor. 268 MV LC VHML motor is an axial flux synchronous permanent magnet electric motor.

#### 3. Equipment

Power controller is H300C power-electronics

#### 4. Dimensions

The motor has a diameter of 268 mm and is 91 mm width.

The power controller dimensions are 245×126×230 mm.

Overall dimension depends on installation. Motor and power controller can be installed independently.

#### 5. Dry Weight

Motor weight: 22.7 kg

Power controller weight: 7 kg

#### 6. Ratings

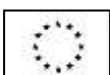
Maximum Take-off Power MTOP: 57.6 kW at 2500 rpm and under 400Vdc, limited to 90 seconds

Maximum Continuous Power MCP: 49.2 kW at 2350rpm and under 400Vdc

#### 7. Control System

Power controller is H300C power-electronics.

Controller version is identified in the Master Drawing List DWG-811-02-40-001.



### **8. Fluids (Oil, Coolant, Additives)**

Coolant liquid is not part of the engine type design. However, it is requested to use a coolant liquid composed of 50% water + 50% glycol automotive grade G12+ .

### **9. Aircraft Accessory Drives**

None

### **10. Propeller installation**

The engine E811-268MVLG was initially certified with a 3 blade fixed pitch propeller certified with the Pipistrel Velis aircraft. The list of approved propellers as well as the allowed characteristics are published in the document EIM-811-00-60-7201 Engine installation and maintenance manual.

## **IV. Operating Limitations**

### **1. Motor operating temperature Limits**

Minimum outside air temperature for operation: -20°C

Maximum outside air temperature for operation: 40°C

### **2. Motor temperature Limits**

Maximum Motor temperature at MCP and MTOP: 110 °C

Maximum Controller temperature at MCP and MTOP: 70 °C

### **3. Speed Limits**

Maximum Motor speed at MCP: 2350 rpm

Maximum Motor speed at MTOP: 2500 rpm

### **4. Torque Limits**

Maximum torque at MCP: 200 Nm

Maximum torque at MTOP: 220 Nm

### **5. Pressure Limits**

Not applicable

### **6. Current Limits**

Maximum controller current: 311A (220 Arms)

Maximum continuous current: 226A (160 Arms)

### **7. Voltage Limits**

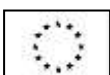
Maximum input Voltage: 400 Vdc

Minimum input Voltage: 250 Vdc

### **8. Cooling limits**

Maximum allowed coolant temperature (at controller inlet) is 60°C.

Minimum required coolant flow is 5.5l/min.



### **9. Time Limited Dispatch (TLD)**

The engine is not approved for Time Limited Dispatch. All engine systems and equipment must be functional prior to aircraft take-off. Any detected engine system or equipment failure must be corrected before next flight. For special instructions see the EIM- 811-00-60-7202 Engine Operator`s Manual.

### **10. ETOPS Capability**

Not applicable

## **V. Operating and Service Instructions**

### **1. Instructions for Continued Airworthiness**

The EASA approved Airworthiness Limitations Section of the Instructions for Continued Airworthiness is published in the applicable document "EIM-811-00-60-7201 Engine Installation and Maintenance Manual", chapter 4 "Maintenance".

### **2. Operating instructions**

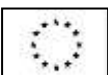
The operating instructions are provided in the Engine Operator`s Manual EIM-811-00-60-7202.

### **3. Maintenance instructions**

The maintenance instructions are provided in the applicable document "EIM-811-00-60-7201 Engine Installation and Maintenance Manual".

## **VI. Notes**

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## **SECTION: ADMINISTRATIVE**

### **I. Acronyms and Abbreviations**

Acronym	Definition
MCP	Maximum Continuous Power
MTOP	Maximum Take-Off Power (limited to 90s)

### **II. Type Certificate Holder Record**

Pipistrel Vertical Solutions d.o.o.

Vipavska cesta 2  
5270 Ajdovščina  
Slovenia

### **III. Change Record**

Issue	Date	Changes	TC issue
Issue 01	18 May 2020	Initial Issue	Initial Issue, 18 May 2020

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