



TYPE-CERTIFICATE DATA SHEET

No. E.237

for
SOLO 8000 series engines

Type Certificate Holder
SOLO Aircraft Engines GmbH

Industriestraße Strasse 9
71069 Sindelfingen
Germany

For Models: SOLO 8000/400
SOLO 8000/401



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I. General

1. Type/ Model/ Variants

SOLO 8000 / SOLO 8000/400, SOLO 8000/401

2. Type Certificate Holder

SOLO Aircraft Engines GmbH
Industrie Strasse 9
71069 Sindelfingen
Germany

Design Organisation Approval ADOAP: AP.136

3. Manufacturer

SOLO Aircraft Engines GmbH
Industrie Strasse 9
71069 Sindelfingen
Germany

Production Organisation Approval DE.21G.0032

Previous Manufacturers:

SOLO Vertriebs- und Entwicklungs-GmbH (before 15 May 2024)

4. Date of Application

SOLO 8000/400: 25.02.2019

SOLO 8000/401: 02.06.2024

5. EASA Type Certification Date

SOLO 8000/400: 12.06.2023

SOLO 8000/401: 28.05.2025

II. Certification Basis

1. State of Design Authority Certification Basis

Not applicable

2. Reference Date for determining the applicable airworthiness requirements

25.02.2019

3. EASA Certification Basis

3.1. Airworthiness Standards

CS-22 Amdt.3, Subpart H



3.2. Special Conditions (SC)

SC-22.2014-01 Installation of electric propulsion units in powered sailplanes

3.3. Equivalent Safety Findings

None

3.4. Deviations

None

3.5. Environmental Protection

Not applicable for electrical engine

III. Technical Characteristics

1. Type Design Definition

SOLO 8000/400: Master document list SOLO 80400, issue 27 January 2023

SOLO 8000/401: Master document list SOLO 80401, issue 27 May 2025

2. Description

Electric propulsion system for powered sailplanes consisting of air-cooled axial-flux synchronous permanent magnet electric motor EMRAX 208 HV or EMRAX 228 HV, controller SOLO econtrol and BM384 Li-Ion battery system.

3. Equipment

Solo 8000 / 400:

1	Motor EMRAX 208 HV
1	DCU Display and Control Unit
1	RFU Retraction and Fuses Unit
1	Controller SOLO econtrol
1 or 2	Battery BM384
1	PRS Power Rail Supply DC/DC Converter
1	IMD Isolation monitoring device

Solo 8000 / 401:

1	Motor EMRAX 228 HV
1	DCU Display and Control Unit
1	RFU Retraction and Fuses Unit
1	Controller SOLO econtrol
1 or 2	Battery BM384
1	PRS Power Rail Supply DC/DC Converter
1	Solo eFlight Box Unit



4. Dimensions

Solo 8000 / 400:

Motor: Diameter 208 mm, Width 85 mm

DCU: 63 mm x 63 mm x 43 mm (Panel Cut-out 59 mm x 59 mm)

RFU: 130 mm x 80 mm x 31 mm

Controller: 280 mm x 200 mm x 90 mm

Battery: 725 mm x 347 mm x 82 mm

PRS: 120 mm x 83 mm x 55 mm

IMD: 140 mm x 112 mm x 43 mm

Solo 8000 / 401:

Motor: Diameter 228 mm, Width 86 mm

DCU: 63 mm x 63 mm x 43 mm (Panel Cut-out 59 mm x 59 mm)

RFU: 130 mm x 80 mm x 31 mm

Controller: 280 mm x 200 mm x 90 mm

Battery: 725 mm x 347 mm x 82 mm

PRS: 120 mm x 83 mm x 55 mm

eFlightBox: 195 mm x 112 mm x 55 mm

Overall dimensions depend on individual airframe installation.

5. Dry Weight

Solo 8000 / 400:

Motor: 9,1 kg

DCU: 145 g

RFU: 260 g

Controller: 3,4 kg

Battery: 25 kg

PRS: 400 g

IMD: 220 g

Overall weight:

With one battery: 38,5 kg

With two batteries: 63,5 kg

Solo 8000 / 401:

Motor: 12,0 kg

DCU: 145 g

RFU: 260 g

Controller: 3,5 kg

Battery: 25 kg

PRS: 400 g

eFlightBox: 600 g

Overall weight:

With one battery: 41,9 kg

With two batteries: 66,9 kg



6. Ratings

Solo 8000 / 400:

With one battery:

Max. Takeoff Power MTOP: 20 kW at 4300 rpm

Max. Continuous Power MCP: 14 kW at 3000 rpm

With two batteries:

Max. Takeoff Power MTOP: 35 kW at 4000 rpm

Max. Continuous Power MCP: 23 kW at 3500 rpm

Solo 8000 / 401:

With one battery:

Max. Takeoff Power MTOP: 20 kW at 3200 rpm

Max. Continuous Power MCP: 14 kW at 3200 rpm

With two batteries:

Max. Takeoff Power MTOP: 35 kW at 3200 rpm

Max. Continuous Power MCP: 26 kW at 3200 rpm

7. Control System

Motor controlled by single power lever via SOLO econtrol controller, DCU display control unit.

8. Fluids (Fuel, Oil, Coolant, Additives)

None.

9. Aircraft Accessory Drives

See Manual.

IV. Operating Limitations

1. Temperature Limits

Maximum motor temperature: 120°C

Maximum controller temperature: 85°C

Maximum battery temperature: 70°C

2. Speed Limits

Solo 8000 / 400:

Maximum motor speed: 4350 rpm

Maximum continuous motor speed: 3600 rpm

Solo 8000 / 401:

Maximum motor speed: 3500 rpm

Maximum continuous motor speed: 3200 rpm

3. Current Limits

Maximum battery current: 80 A

Maximum continuous battery current: 60 A



4. Voltage Limits

Minimum battery voltage: 240 V
Maximum battery voltage: 403 V

5. Battery Limits

Battery capacity: 11,2 Ah
Non-usable battery capacity: 1.0 Ah (~10%)
Max battery discharge temperature: 70°C
Min battery discharge temperature: -20°C
Max battery charge temperature: 50°C
Min battery charge temperature: 0°C
Range of permissible cell voltage: 2,5 - 4,2 V

V. Operating and Service Instructions

SOLO 8000/400: Manual for the electric propulsion system SOLO Type 80400, Edition May 18th 2022
SOLO 8000/401: Manual for the electric propulsion system SOLO Type 80401, Edition Feb 17th 2025
or later approved revisions

VI. Notes

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SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

n/a

II. Type Certificate Holder Record

Before 19 November 2025:
SOLO Kleinmotoren GmbH
Stuttgarter Strasse 41, 71069 Sindelfingen, Germany
Design Organisation Approval ADOAP: AP.136

III. Change Record

Issue	Date	Changes	TC issue
Issue 01	12 June 2023	Initial Issue	Initial Issue, 12 June 2023
Issue 02	28 May 2025	Model SOLO 8000/401	28 May 2025
Issue 03	19 November 2025	Change of company name and address	19 November 2025

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