TYPE-CERTIFICATE

DATA SHEET

NO. EASA.A.072

for
DG-1000

Type Certificate Holder
DG Aviation GmbH

Otto-Lilienthal-Weg 2
D-76646 Bruchsal
Germany

For models: DG-1000S
DG-1000T
DG-1000M
DG-1001E

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Contents

Section A: DG-1000S

A.I General

1.	Type/ Model/ Commercial Designation	
	1.1 Type:	DG-1000
	1.2 Model:	DG-1000S
	1.3 Commercial Designation:	DG-1000S or DG-1001S
2.	Airworthiness Category	Sailplane, JAR 22 – Utility and Aerobatic
3.	Manufacturer	DG-Flugzeugbau GmbH Otto-Lilienthal-Weg 2 D-76646 Bruchsal Germany Volocopter Production GmbH Otto-Lilienthal-Weg 2 D-76646 Bruchsal Germany
4.	State of Design Certification Application Date	June 6, 1996
5.	EASA Type Certification Date	March 12, 2002
6.	This TCDS cancels and replaces LBA TCDS No 413	

A.II EASA Certification Basis

1.	Certification Basis	Defined by LBA letter I 412-413/96, dated July 30, 1996
2.	Airworthiness Requirements	Joint Airworthiness Requirements for Sailplanes and Powered Sailplanes (JAR 22), Change 5, issued October 28. 1995
3.	Requirements elected to comply	Preliminary guideline for the stress analysis of glass- fibre and carbon-fibre reinforced plastic structures for sailplanes and powered sailplanes, issued July 1991
4.	Special Conditions	SC-D22-D01 – hand rudder control
5.	Exemptions	None
6.	Equivalent Safety Findings	JAR 22.207 (c)
7.	Environmental Protection	N/A

A.III Technical Characteristics and Operational Limitations

1. Type Design Definition	Master Drawing List DG-1000S, issued February 2002, LBA approved
2. Description	Two-seater, self-supporting midwing, sail-plane, conventional T- type tailplane, horizontal tailplane constructed from GFRP and CFRP, fuselage and fin constructed from GFRP, water ballast tank and ballast box in the fin (optional), with spring mounted retractable central main landing gear, tail wheel or spring mounted retractable central main landing gear, nose wheel, tail wheel or spring mounted fixed central main landing gear, nose wheel, tail wheel. Wing constructed from CFRP, Schempp-Hirth air-brakes on upper wing surface, waterballast in the wings. The wings of the DG-1000S are made of carbon fibre reinforced plastics with a parting at y= 8,6m, there are four types of wing tips available with different spans: A) Wing elongations with 20 m span with winglets B) Wing tips with 18 m span without winglets C) Wing tips with 18 m span with winglets D) End plates for 17.2 m span
3. Equipment	Minimum Equipment: - 1 Air speed indicator (up to 300 km/h) - 1 Altimeter measuring range min. 10000 m, one turn max. 1000 m - 2 4-Point harness (symmetrical) - 1 parachute or back cushion (thickness approx. 8 cm/ 3 in front seat and 3-8 cm (1.2-3 in) back seat when compressed - 1 Outside air temperature gauge - 1 Battery Z110 or a weight of 5.5 kg in the battery box in the vertical fin Additionally for operation in Airworthiness category aerobatic: - 1 Accelerometer capable of retaining min. and max. g-values

Additional equipment refer to flight- and Maintenance Manual

4. Dimensions

Span:	17.20 m	18.00 m	20.00 m
Length:		8.57 m	
Height:		1.83 m	
Wing Area:	16.3 m²	16.72 m²	17.53 m²

5. Launching Hooks
   Safety hook “Europa G 88”
   LBA Datasheet No. 60.230/2
   Nose tow hook “E 85”
   LBA Datasheet No. 60.230/1

6. Weak Links
   Ultimate strength for aero-tow, winch- and autotow-launching max 1100 daN

7. Air Speeds

   7.1 Manoeuvring speed V_A — 185 km/h

   7.2 Never exceed speed V_{NE} — 270 km/h

   7.3 Maximum permitted speeds
   - in strong turbulence V_{RA} — 185 km/h
   - in aero-tow V_T — 185 km/h
   - in winch-launch V_W — 150 km/h

8. Approved Operations Capability
   VFR Day only
   Cloud flying permitted according to the specifications in the Flight Manual without water ballast
   Aerobatic manoeuvres Category “A” permitted with span 17.2 m or 18.0 m without winglets

9. Launch methods
   Aero tow
   Winch launch and auto launch

10. Maximum Masses

    10.1 Maximum Take-off Mass Category “A” (Only with 17.2 m or 18 m without Winglets) — 630 kg

    10.2 Maximum Take-off Mass Category “U” — 750 kg
    (790 kg possible, refer to A.V 4.)

    10.3 Max. Mass of non-lifting parts — 469 kg

11. Centre of Gravity Range
    190 mm – 440 mm aft of Datum

12. Datum
    wing leading edge at root rib

13. Levelling Means	Wedge 1000:33 placed horizontal on upper side of the fuselage boom horizontal
14. Control Surface Deflections	Refer to Maintenance Manual
15. Minimum Flight Crew	1
16. Maximum Seating Capacity	2
17. Lifetime limitations	Refer to Maintenance Manual

A.IV <u>Operating and Service Instructions</u>

1. Flight Manual	Flight Manual for the sailplane DG-1000S, issued March 2002, LBA-approved or German: Flughandbuch für das Segelflugzeug DG-1000S, Ausgabe März 2002, LBA-anerkannt
2. Maintenance Manual	Maintenance Manual for the sailplane DG-1000S, issued March 2002 or German: Wartungshandbuch für das Segelflugzeug DG-1000S, Ausgabe März 2002
3. Structural Repair Manual	Repair Manual for the sailplane DG-1000S, issued March 2002 or Repair Manual for sailplanes and motor-gliders DG-1000, issued December 2010 or German: Reparaturhandbuch für das Segelflugzeug DG-1000S, Ausgabe März 2002 oder Reparaturhandbuch für Segelflugzeuge und Motorsegler DG-1000, Ausgabe Dezember 2010
4. Operating Manual for the Launching Hooks	Operating Instructions for the TOST nose tow release mechanism Variant “E 85”, latest approved version Operating Instructions for the TOST safety tow release mechanism Variant “EUROPA G 88”, latest approved version or German: Betriebshandbuch für die Schleppkupplung Bugkupplung “E 85”, in der jeweils gültigen Ausgabe Betriebshandbuch für die Sicherheitskupplung “Europa G 88”, in der jeweils gültigen Ausgabe

A.V Notes

1. Manufacturing is confined to industrial production.
2. All parts exposed to sun radiation – except the areas for markings and registration – must have a white colour surface.
3. Suitable for simple aerobatics with wingspan 17.2 m, 18 m and 20 m without waterballast as specified in the Flight Manual.
   Suitable for aerobatics with wingspan 17.2 m or 18 m without winglets and without waterballast as specified in the Flight Manual.
4. With Technical Note TN1000/45 embodied: In Category Utility and 20 m wingspan configuration, MTOM 790 kg.

Section B: DG-1000T

B.I General

1.	Type/ Model/ Commercial Designation	
	1.1 Type:	DG-1000
	1.2 Model:	DG-1000T
	1.3 Commercial Designation:	DG-1000T or DG-1001T
2.	Airworthiness Category	Powered Sailplane, JAR 22 – Utility and Aerobatic
3.	Manufacturer	DG-Flugzeugbau GmbH Otto-Lilienthal-Weg 2 D-76646 Bruchsal Germany
4.	LBA Type Certification Application Date	24 January 2003
5.	EASA Type Certification Date	27 January 2006

B.II EASA Certification Basis

1.	Reference Date for determining the applicable requirements	
2.	Airworthiness Requirements	Joint Airworthiness Requirements for Sailplanes and Powered Sailplanes (JAR 22), Amendment 6, issued 1 August 2001
3.	Requirements elected to comply	Preliminary guideline for the stress analyses of glass-fibre and carbon-fibre reinforced plastic structures for sailplanes and powered sailplanes, issued July 1991 Guideline concerning proof of compliance for the electrical system of powered sailplanes, I 334-MS 92, issued 15 September 1992
4.	Special Conditions	SC-D22-D01 – hand rudder control
5.	Exemptions	None
6.	Equivalent Safety Findings	JAR 22.207 (c)
7.	Environmental Protection	n/a

B.III Technical Characteristics and Operational Limitations

1. Type Design Definition

Master Drawing List DG-1000T,
Issued 23 November 2005, LBA-approved

2. Description

Two seater, self supporting midwing, self sustaining powered sailplane with retractable engine and fixed pitch propeller, conventional T- type tailplane, horizontal tailplane constructed from GFRP and CFRP, fuselage and fin constructed from GFRP and CFRP in the engine bay, water ballast tank and ballast box in the fin (optional), fuel tank in the fuselage,
with spring mounted retractable central main landing gear and tail wheel or
spring mounted retractable central main landing gear, nose wheel, tail wheel or
spring mounted fixed central main landing gear, nose wheel and tail wheel.
Wing constructed from CFRP, Schempp-Hirth airbrakes on upper wing surface, waterballast in the wings.
The wings of the DG-1000T are made of carbon fibre reinforced plastics with a parting at y= 8,6m, there are four types of wing tips available with different spans:

A) Wing elongations with 20 m span with winglets
B) Wing tips with 18 m span without winglets
C) Wing tips with 18 m span with winglets
D) End plates for 17.2 m span

3. Equipment

Minimum Equipment:

- 1 Air speed indicator (up to 300 km/h)
- 1 Altimeter measuring range min. 10000 m, one turn max. 1000 m
- 2 4-Point harness (symmetrical)
- 1 magnetic compass
- 1 rear view mirror
- 1 engine control unit DIE-NT featuring
  - RPM indicator
  - Fuel quantity indicator
  - Coolant temperature gauge
  - Engine elapsed time indicator
  - Outside air temperature gauge
- 1 parachute or back cushion (thickness approx. 8 cm/ 3 in front seat and 3-8 cm (1.2-3 in) back seat when compressed

Additionally for operation in Airworthiness category aerobatic:

- 1 Accelerometer capable of retaining min. and max. g-values

Additional equipment refer to flight and Maintenance Manual.

4. Dimensions

Span:	17.20 m	18.00 m	20.00 m
Length:		8.57 m	
Height:		1.83 m	
Wing Area:	16.3 m²	16.72 m²	17.53 m²

5. Engine

5.1	Model	SOLO 2350C
5.2	Type Certificate	EASA.E.219
5.3	Limitations	Refer to Flight Manual
5.4	Maximum Continuous Power	20 kW at 6100 rpm

6. Propeller

6.1	Model	DG-P001-1
6.2	Type Certificate	EASA.P.011

7. Fuel capacities — Refer to Flight Manual

8. Launching Hooks — Safety hook “Europa G 88”
LBA Datasheet No. 60.230/2
Nose tow hook “E 85”
LBA Datasheet No. 60.230/1

9. Weak Links — Ultimate strength for aero-tow, winch- and autotow-launching max 1100 daN

10. Air Speeds

10.1	Manoeuvring speed V_A	185 km/h
10.2	Never exceed speed V_{NE}	270 km/h
10.3	Maximum permitted speeds	
-	- in strong turbulence V_{RA}	185 km/h
-	- in aero-tow V_T	185 km/h
-	- in winch-launch V_W	150 km/h
-	- Max Speed for extending/ retracting engine V_{POmax}	100 km/h

11. Approved Operations Capability — VFR Day only

	Cloud flying permitted according to the specifications in the Flight Manual without water ballast Aerobatic manoeuvres Category "A" permitted with span 17.2 m or 18.0 m without
12. Launch methods	Aero tow Winch launch and auto launch
13. Maximum Masses	
13.1 Maximum Take-off Mass Category "A" (Only with 17.2 m or 18 m without Winglets)	630 kg
13.2 Maximum Take-off Mass Category "U"	750 kg (790 kg possible, refer to B.V 4.)
13.3 Max. Mass of non-lifting parts	554 kg
14. Centre of Gravity Range	200 mm – 440 mm aft of Datum
15. Datum	wing leading edge at root rib
16. Levelling Means	Wedge 1000:33 placed horizontal on upper side of the fuselage boom horizontal
17. Control Surface Deflections	Refer to Maintenance Manual
18. Minimum Flight Crew	1
19. Maximum Seating Capacity	2
20. Lifetime limitations	Refer to Maintenance Manual

B.IV Operating and Service Instructions

1. Flight Manual	Flight Manual for the powered sailplane DG-1000T, issued July 2005, EASA approved or German: Flughandbuch für den Motorsegler DG-1000T, Ausgabe Juli 2005
2. Maintenance Manual	Maintenance Manual for the powered sailplane DG-1000T, issued June 2005 or German Wartungshandbuch für den Motorsegler DG-1000T, Ausgabe Juni 2005
3. Structural Repair Manual	Repair Manual for the powered sailplane DG-1000T, issued June 2005 or Repair Manual for sailplanes and motorgliders DG-1000, issued December 2010 or German: Reparaturhandbuch für den Motorsegler DG-1000T, Ausgabe Juni 2005 oder Reparaturhandbuch für Segelflugzeuge und Motorsegler DG-1000, Ausgabe Dezember 2010
4. Operating Manual and Maintenance Manual for Engine	Manual for engine SOLO 2350 C, latest approved version, issued by Solo-Kleinmotoren GmbH or German: Handbuch für den Motor SOLO 2350 C, letzte gültige Ausgabe, der Firma SOLO Kleinmotoren GmbH
5. Operating Manual and Maintenance Manual for Propeller	Manual for fixed pitch 2-blade composite propeller DG-P001, latest approved version or German: Handbuch für den starren Zweiblatt-Propeller DG-P001, letzte gültige Ausgabe.

6. Operating Manual for the Launching Hooks	Operating Instructions for the TOST nose tow release mechanism Variant “E 85” latest approved version Operating Instructions for the TOST safety tow release mechanism Variant “EUROPA G 88” latest approved version or German: Betriebshandbuch für die Schleppkupplung Bugkupplung “E 85”, in der jeweils gültigen Ausgabe Betriebshandbuch für die Sicherheitskupplung “Europa G 88”, in der jeweils gültigen Ausgabe

B.V Notes

1. Manufacturing is confined to industrial production.
2. All parts exposed to sun radiation – except the areas for markings and registration – must have a white colour surface.
3. The DG-1000T may be operated with the engine removed or the engine inoperable. Refer to Flight Manual and Maintenance Manual.
4. With Technical Note TN1000/45 embodied: In Category Utility and 20 m wingspan configuration, MTOM 790 kg.

Section C: DG-1000M

C.I General

1.	Type/ Model/ Commercial Designation	
	1.1 Type:	DG-1000
	1.2 Model:	DG-1000M
	1.3 Commercial Designation:	DG-1001M
2.	Airworthiness Category	Powered Sailplane, JAR 22 – Utility
3.	Manufacturer	DG-Flugzeugbau GmbH Otto-Lilienthal-Weg 2 D-76646 Bruchsal Germany
4.	EASA Type Certification Application Date	31 October 2008
5.	EASA Type Certification Date	11 March 2011

C.II EASA Certification Basis

1.	Reference Date for determining the applicable requirements	12 February 2003
2.	Airworthiness Requirements	Joint Airworthiness Requirements for Sailplanes and Powered Sailplanes (JAR 22), Amendment 6, issued 1 August 2001
3.	Requirements elected to comply	Preliminary guideline for the stress analyses of glass-fibre and carbon-fibre reinforced plastic structures for sailplanes and powered sailplanes, issued July 1991 Guideline concerning proof of compliance for the electrical system of powered sailplanes, I 334-MS 92, issued 15 September 1992
4.	Special Conditions	None
5.	Exemptions	None
6.	Equivalent Safety Findings	JAR 22.207 (c)
7.	Environmental Protection	ICAO Annex 16, Volume 1, Part II, Chapter X

C.III Technical Characteristics and Operational Limitations

1. Type Design Definition

Master Drawing List DG-1000M,
issued February 14. 2011, LBA-approved

2. Description

Two-seater, self supporting midwing, selflaunching powered sailplane with retractable engine and fixed pitch propeller, conventional T- type tailplane, horizontal tailplane constructed from GFRP and CFRP, fuselage and fin constructed from GFRP and CFRP in the engine bay, with spring mounted retractable central main landing gear, steerable tail wheel, ballast box in the fin, fuel tank in the fuselage
Wing constructed from CFRP with parting at y= 8,6m and wing tips for 20 m span with Winglets, Schempp-Hirth airbrakes on upper wing surface, optional waterballast in the wings

3. Equipment

Minimum Equipment:

- 1 Air speed indicator (up to 300 km/h)
- 1 Altimeter measuring range min. 10000 m, one turn max. 1000 m
- 2 4-Point harness (symmetrical)
- 1 Magnetic compass
- 1 Rear view mirror
- 1 Engine control unit DIE-NT featuring
  - RPM indicator
  - Fuel quantity indicator
  - Coolant temperature gauge
  - Engine elapsed time indicator
  - Outside air temperature gauge
- 1 parachute or back cushion (thickness approx. 8 cm/ 3 in front seat and 3-8 cm (1.2-3 in) back seat when compressed

Additional Equipment refer to flight and Maintenance Manual

4. Dimensions

Span:	20.00 m
Length:	8.57 m
Height:	1.87 m
Wing Area:	17.53 m²

5. Engine

5.1 Model: SOLO 2625 02i

5.2 Type Certificate: EASA.E.218

5.3 Limitations

5.4	Maximum Continuous Power	50 kW at 6600 rpm
6.	Propeller	
6.1	Model	Binder Motorenbau GmbH BM-G1-160-R-120-1
6.2	Type Certificate	EASA.P.500
7.	Fuel capacities	Refer to Flight Manual
8.	Launching Hooks	Safety hook “Europa G 88” LBA Datasheet No. 60.230/2 Nose tow hook “E 85” LBA Datasheet No. 60.230/1
9.	Weak Links	Ultimate strength for aero-tow, winch- and autotow-launching max 1100 daN
10.	Air Speeds	
10.1	Manoeuvring speed V_A	185 km/h
10.2	Never exceed speed V_{NE}	270 km/h
10.3	Maximum permitted speeds	
-	- in strong turbulence V_{RA}	185 km/h
-	- in aero-tow V_T	185 km/h
-	- in winch-launch V_W	150 km/h
-	- Max Speed for extending/ retracting engine V_{POmax}	100 km/h
11.	Approved Operations Capability	VFR Day only Cloud flying according to the specifications in the Flight Manual Simple aerobatic manoeuvres permitted according to Flight Manual
12.	Launch methods	Aero tow Winch launch and auto launch Self-launch
13.	Maximum Masses	
13.1	Max. Take-Off Mass:	790kg
13.2	Max. Mass of Non-Lifting Parts	600 kg
13.3	Max. Take-Off Mass for simple arobatic manoeuvres:	790 kg
14.	Centre of Gravity Range	
14.1	With powerplant installed	320 mm – 440 mm aft of Datum
	With powerplant removed	200 mm – 440 mm aft of Datum
15.	Datum	wing leading edge at root rib

16. Levelling Means	Wedge 1000:33 placed horizontal on upper side of the fuselage boom horizontal
17. Control Surface Deflections	Refer to Maintenance Manual
18. Minimum Flight Crew	1
19. Maximum Seating Capacity	2
20. Lifetime limitations	Refer to Maintenance Manual

C.IV Operating and Service Instructions

1. Flight Manual	Flight Manual for the powered sailplane DG-1000M, issued October 2010, EASA approved or German: Flughandbuch für den Motorsegler DG-1000M, Ausgabe Oktober 2010
2. Maintenance Manual	Maintenance Manual for the powered sailplane DG-1000M, issued December 2010 or German Wartungshandbuch für den Motorsegler DG-1000M, Ausgabe Dezember 2010
3. Structural Repair Manual	Repair Manual for sailplanes and motorgliders DG-1000, issued December 2010 or German: Reparaturhandbuch für Segelflugzeuge und Motorsegler DG-1000, Ausgabe Dezember 2010
4. Operating Manual and Maintenance Manual for Engine	Manual for engine SOLO 2625 02i, latest approved version, issued by Solo-Kleinmotoren GmbH or German: Handbuch für den Motor SOLO 2625 02i, letzte gültige Ausgabe, der Firma SOLO Kleinmotoren GmbH
5. Operating Manual and Maintenance Manual for Propeller	Manual for fixed pitch 2-blade composite propeller BM-G1-160-R-120-1, latest approved version or German: Handbuch für den starren Zweiblatt-Propeller BM-G1-160-R-120-1, letzte gültige Ausgabe.

6.	Operating Manual for the Launching Hooks	Operating Instructions for the TOST nose tow release mechanism Variant “E 85” latest approved version Operating Instructions for the TOST safety tow release mechanism Variant “EUROPA G 88” latest approved version or German: Betriebshandbuch für die Schleppkupplung Bugkupplung “E 85”, in der jeweils gültigen Ausgabe Betriebshandbuch für die Sicherheitskupplung “Europa G 88”, in der jeweils gültigen Ausgabe

C.V Notes

1. Manufacturing is confined to industrial production.
2. All parts exposed to sun radiation – except the areas for markings and registration – must have a white colour surface.
3. The DG-1000M may be operated with the engine removed or the engine inoperable. Refer to Flight Manual and Maintenance Manual

Section D: DG-1001E

D.I General

1.	Type/ Model/ Variant	
	1.1 Type:	DG-1000
	1.2 Model:	DG-1001E
2.	Airworthiness Category	Powered Sailplane, JAR 22 – Utility and Aerobatic
3.	Manufacturer	DG-Flugzeugbau GmbH Otto-Lilienthal-Weg 2 D-76646 Bruchsal Germany Volocopter Production GmbH Otto-Lilienthal-Weg 2 D-76646 Bruchsal Germany
4.	EASA Type Certification Application Date	14 February 2020
5.	EASA Type Certification Date	09 February 2023

D.II EASA Certification Basis

1.	Reference Date for determining the applicable requirements	16 May 2022
2.	Airworthiness Requirements	Joint Airworthiness Requirements for Sailplanes and Powered Sailplanes (JAR 22), Amendment 6, issued August 1. 2001
3.	Requirements elected to comply	Preliminary guideline for the stress analyses of glass-fibre and carbon-fibre reinforced plastic structures for sailplanes and powered sailplanes, issued July 1991 Guideline concerning proof of compliance for the electrical system of powered sailplanes, I 334-MS 92, issued 15 September 1992
4.	Special Conditions	SC-D22-D01 – hand rudder control SC-22.2014-01 - Installation of electric propulsion units in powered sailplanes SC E-01 - Airworthiness standard for CS-22H - Electrical retractable engine to be operated in powered sailplanes
5.	Exemptions	None
6.	Equivalent Safety Findings	JAR 22.207 (c)
7.	Environmental Protection	N/A

D.III Technical Characteristics and Operational Limitations

1. Type Design Definition

Master Drawing List DG-1001E
issued December 12, 2022

2. Description

Two-seater, self-supporting mid-wing, self sustaining powered sailplane with electric motor in the fuselage nose and fixed pitch back folding propeller (FES system), conventional T- type tailplane, horizontal tailplane constructed of GFRP and CFRP, fuselage and fin constructed of GFRP and CFRP around the battery compartment, water ballast tank and ballast box in the fin (optional), batteries in the fuselage behind the wings, with spring mounted electrically retractable central main landing gear and tail wheel. Wing constructed in CFRP, Schempp-Hirth airbrakes on upper wing surface, water ballast in the wings. The wings of the DG-1001E have a parting at y= 8.6m, there are four types of wing tips available with different spans:

A) Wing elongations with 20 m span with winglets
B) Wing tips with 18 m span without winglets
C) Wing tips with 18 m span with winglets
D) End plates for 17.2 m span

3. Equipment

Minimum Equipment:

- 1 Air speed indicator (up to 300 km/h)
- 1 Altimeter measuring range min. 10000 m, one turn max. 1000 m
- 2 4-Point harness (symmetrical)
- 1 magnetic compass
- 1 Outside air temperature gauge
- 1 FES control unit (FCU), featuring:
  - RPM indicator
  - Energy quantity remaining indicator
  - Motor-, controller- and 2 battery temperature gauge
  - Engine elapsed time indicator
- 1 parachute or back cushion (thickness approx. 8 cm/ 3 in front seat and 3-8 cm (1.2-3 in) back seat when compressed

Additionally for operation in Airworthiness category aerobatic:

- 1 Accelerometer capable of retaining min. and max. g-values

Additional equipment refer to Flight and Maintenance Manual.

4. Dimensions

Span:	17.20 m	18.00 m	20.00 m
Length:		8.57 m	
Height:		1.83 m	
Wing Area:	16.3 m²	16.72 m²	17.53 m²

5. Engine [electrical propulsion]

5.1	Model	FES-DG-M100
5.2	Type Certificate	Certified as part of the aircraft
5.3	Limitations	Maximum power 30 kW
5.4	Max. continuous revs	4800 RPM
5.5	Max. over speed revs	4800 RPM
5.6	Max. motor temperature	90°C
5.7	Max. power electronics temp.	90°C

6. Propeller

6.1	Model	FES-DG-P1-102
6.2	Type Certificate	Certified as part of the aircraft
6.3	Number of blades	2 foldable, fixed pitch
6.4	Diameter	1020 mm
6.5	Sense of Rotation	clockwise, looking at direction of flight

7. Battery [electrical propulsion]

7.1	Model	2x FES GEN4 16S 84Ah
7.2	Battery capacity	2x 4.25 kWh
7.3	Non-usable battery capacity	n/a
7.4	Max battery discharge temperature	55°C
7.5	Min battery discharge temperature	0°C
7.6	Max battery charge temperature	55°C, BMS max. 50°C
7.7	Min battery charge temperature	0°C
7.8	Range of permissible cell voltage	3.1V to 4.18 V

8. Launching Hooks

Safety hook “Europa G 88”
LBA Datasheet No. 60.230/2

Nose tow hook “E 85”
LBA Datasheet No. 60.230/1

9. Weak Links

Ultimate strength for aero-tow, winch- and autotow-launching max 1100 daN

10. Air Speeds

10.1 Manoeuvring speed V_A	185 km/h
10.2 Never exceed speed V_{NE}	270 km/h
10.3 Maximum permitted speeds	
- in strong turbulence V_{RA}	185 km/h
- in aero-tow V_T	185 km/h
- in winch-launch V_W	150 km/h
- Max Speed for rotating propeller $V_{PE:}$	160 km/h
- Min. speed to start and stop motor $V_{PO\ min}$:	80 km/h
- Max speed to start and stop motor $V_{PO\ max}$:	120 km/h

11. Approved Operations Capability	VFR Day only Cloud flying permitted according to the specifications in the Flight Manual without water ballast Aerobatic manoeuvres Category "A" permitted with span 17.2 m or 18.0 m without winglets
12. Launch methods	Aero tow Winch launch and auto launch
13. Maximum Masses	
13.1 Maximum Take-Off Mass Category "A" (Only with 17.2 m or 18 m without Winglets)	630 kg
13.2 Maximum Take-Off Mass Category "U", 17.2 or 18 m	750 kg
13.3 Maximum Take-Off Mass Category "U", 20 m	790 kg
13.4 Max. Mass of non-lifting parts	600 kg
14. Centre of Gravity Range	190 mm – 440 mm aft of Datum
15. Datum	Wing leading edge at root rib
16. Levelling Means	Wedge 1000:33 placed horizontal on upper side of the fuselage boom horizontal
17. Control Surface Deflections	Refer to Maintenance Manual
18. Minimum Flight Crew	1
19. Maximum Seating Capacity	2
20. Lifetime limitations	Refer to Maintenance Manual

D.IV Operating and Service Instructions

1.	Flight Manual	Flight Manual for the powered sailplane DG-1001E, issued December 2022, EASA approved or later EASA approved revision or German: Flughandbuch für den Motorsegler DG-1001E, Ausgabe Dezember 2022
2.	Maintenance Manual	Maintenance Manual for the powered sailplane DG-1001E, issued December 2022, or later EASA approved revision or German Wartungshandbuch für den Motorsegler DG-1001E, Ausgabe Dezember 2022
3.	Structural Repair Manual	Repair Manual for sailplanes and motorgliders DG-1000, issued October 2022 or German: Reparaturhandbuch für Segelflugzeuge und Motorsegler DG-1000, Ausgabe Oktober 2022
4.	Operating Manual and Maintenance Manual for Engine	Manual for electric motor FES-DG-M100, latest approved version or German: Handbuch für den Motor FES-DG-M100 in der jeweils gültigen Ausgabe
5.	Operating Manual and Maintenance Manual for Propeller	FES-DG-P1-102 PROPELLER MANUAL, latest approved version or German: Handbuch für den Propeller FES-DG-P1-102 in der jeweils gültigen Ausgabe
6.	Operating Manual for the Launching Hooks	Operating Instructions for the TOST nose tow release mechanism Variant “E 85” latest approved version Operating Instructions for the TOST safety tow release mechanism Variant “EUROPA G 88” latest approved version or German: Betriebshandbuch für die Schleppkupplung Bugkupplung “E 85”, in der jeweils gültigen Ausgabe Betriebshandbuch für die Sicherheitskupplung “Europa G 88”, in der jeweils gültigen Ausgabe

D.V Notes

1. Manufacturing is confined to industrial production.
2. All parts exposed to sun radiation – except the areas for markings and registration – must have a white colour surface.
3. The DG-1001E may be operated with the battery and/or the motor removed or the motor inoperable. Refer to Flight Manual and Maintenance Manual.

Section E: Administrative Section

E.I Acronyms & Abbreviations

CPFR Carbon fibre reenforced plastic
EASA European Union Aviation Safety Agency
GPFR Glass fibre reenforced plastic
JAR Joint Aviation Requirements
LBA Luftfahrt-Bundesamt
MTOM Maximum Take-off Mass
RPM Rotations per minute
TC Type Certificate
TCDS Type Certificate Data Sheet
TCDSN Type Certificate Date Sheet for Noise
VFR Visual Flight Rules

E.II Type Certificate Holder Record

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Otto-Lilienthal-Weg 2
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E.III Change Record

Issue	Date	Changes	TC Issue No. & Date
01	January 27th 2006	Initial Issue	12 March 2002
02	March 15th 2006	Amendment to Notes B.III. 3: For operation in Airworthiness category aerobatic: 1 Accelerometer capable of retaining min. and max. g-values Für den Betrieb in der Lufttüchtigkeitsklasse Aerobatic zusätzlich: Beschleunigungsmesser mit Schleppzeiger	
03	March 17th 2011	New variant: DG-1000M Corrections for variants: DG-1000S and DG-1000T New combined repair manual for all DG-1000 variants	17 March 2011
04	August 29th 2011	DG-1000S: New fixed LG designed (with disc brake), the limitation of the max. mass to 630 kg (1389 lbs.) can be waived.	
05	April 24th 2012	Additional ELOS for JAR 22.207(2) for DG-1000M	
06	August 25th 2015	Correction of type in section A.I.2	

Issue	Date	Changes	TC Issue No. & Date
07	March 2nd 2017	Corrections in section A.III., B.III. C.IV.,	
08	July 3rd 2019	Editorial changes; Engine TCDS references	
09	06 April 2022	Change of TC holder	24 March 2022
10	08 June 2022	Optional 20 m wingtips with neo Winglets and increased MTOM for variants S and T.	n/a
11	09 February 2023	New variant DG-1001E. DG-1000S and M, missing Special Condition for hand rudder control added. Launch methods added, all models DG-1000S and DG-1001E, new manufacturer added	09 February 2023
12	08 January 2024	GEN4, 16S, 84Ah battery for DG-1001E Corrected motor max RPM for DG-1001E German translations in TCDS removed for better readability Minor corrections in layout of TCDS Deleted former 3. and 4. of section A.V and added this information to section A.III 8.	

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