



TCDS No.:
Issue: 05

Lightwing AC4

09 Apr 2019



TYPE-CERTIFICATE

DATA SHEET

EASA.A.588

for
LIGHTWING AC4

Type Certificate Holder

Light Wing AG

Riedenmatt 1
6370 Stans
Switzerland

For models: Lightwing AC4





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SECTION A: LIGHTWING AC4

A.I. General

1. Type/ Model/ Variant

Type: Lightwing AC4
Model: Lightwing AC4

2. Airworthiness Category: Restricted

3. Type Certificate Holder: Light Wing AG
Riedenmatt 1
6370 Stans
Switzerland

4. Contracted DOA Holder (as per 21.A.2)

Since 21 February 2019: Aircraft Design Certification GmbH
Reichensteinstrasse 48
69151 Neckargemünd
Germany

5. Manufacturer: Lightwing AG
Riedenmatt 1
6370 Stans
Switzerland

6. EASA Certification

Application Date: 23 December 2011

A.II. EASA Certification Basis

1. Reference Date for determining

the applicable requirements: 23 December 2011

2. Airworthiness Requirements: Certification Specification for Light Sport Aeroplanes (CS-LSA), initial issue

3. Special Conditions: SC-LSA.2012-01 Requirements to the fuel system in LSA equipped with fuel injected engines





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- | | |
|---|---|
| 4. Exemptions: | None |
| 5. Deviations: | None |
| 6. Equivalent Safety Findings: | None |
| 7. Environmental Protection Requirements: | Chapter 10 of ICAO Annex 16, Volume I. For details see TCDSN EASA.A.588 |





A.III. Technical Characteristics and Operational Limitations

1. Type Design Definition: Drawing list: LW-FO-Z-009-rev.0; or later approved revision.
Equipment & Equipment Qualification List: LW-FO-Z-012-EQL-rev.3 or later approved revision.
2. Description: The Lightwing AC4 features:
- Conventional high strutted wing configuration;
- Conventional strutted tail;
- Single piston tractor engine;
- Fixed pitch propeller;
- 2 seats, side by side;
- Fixed tricycle landing gear with steerable nose wheel and streamlined wheel covers.
3. Equipment: Minimum equipment list according to flight manual (LW-RL-Z-001-rev2, or later approved revision)
4. Dimensions:
- | | | |
|-------------------------|-------|----------------|
| Total length: | 6.97 | m |
| Maximum height: | 2.67 | m |
| Maximum fuselage width: | 1.25 | m |
| Wing span: | 9.45 | m |
| Wing area: | 12.70 | m ² |
5. Engine:
- Option1: Rotax 912iS Sport, see note 1
Certified as part of the aircraft
- Option 2: Rotax 912iSc Sport, see note 2
EASA Engine TCDS No. E.121
- Limitations: None
6. Load factors:
- | | |
|----------|-----------|
| +4g, -2g | (clean) |
| +2g, 0g | (flapped) |





7. Propeller

Model:	Neuform, CR-75-(IP)-47-101.6
Manufacturer:	Neuform Composites GmbH
Type Certificate:	Certified as part of the airplane, see note 3
Number of blades:	3, ground adjustable
Diameter:	1.75 m
Sense of Rotation:	Right (in flight direction)
Weight:	6.4 kg

8. Fluids

Fuel:	MOGAS EN 228 Super / EN 228 Super plus
<i>Alternative:</i>	AVGAS 100 LL = ASTM D910-76 = MIL-G5772
Oil:	API classification "SG" or higher
Coolant:	Conventional (see Rotax SI-91 i-001)

9. Fluid capacities

Fuel:	90 L (usable)
Oil:	3 L
Coolant system:	1.5 L (approximately)

10. Air Speeds (IAS):

V _{S0}	Stall speed flap DWN	76 km/h	(41 kts)
V _{S1}	Stall speed clean	82 km/h	(44 kts)
V _F	Flap speed	165 km/h	(89 kts)
V _A	Manoeuvring speed	176 km/h	(95 kts)
V _C	Cruise speed	176 km/h	(95 kts)
V _{NE}	Never exceed speed	210 km/h	(113 kts)

11. Flight Envelope

Maximum altitude 12.000 ft

12. Approved Operations

Capability: Day-VFR

13. Maximum Masses:

Maximum permissible empty mass	405 kg
Maximum take-off mass	600 kg

14. Centre of Gravity Range:

Forward CG (max. 495kg)	2885 mm (12% MAC)
Forward CG (@600kg)	2940 mm (16% MAC)
Aft CG limit	3008 mm (21% MAC)





15. Datum (origin):
- | | |
|--------------------|-------------------------------------|
| X (aft positive) | 1000mm in front of propeller flange |
| Y (right positive) | on centre line |
| Z (up positive). | 2000mm below propeller flange |
16. Control surface deflections:
- | | |
|----------|-------------------------------|
| Aileron | 21.2° up, 23.6° down (+/- 2°) |
| Flap | 0°, 10°, 24° down (+/- 2°) |
| Elevator | 30° up, 30° down (+/- 2°) |
| Rudder | 25° left/right (+/- 2°) |
17. Levelling Means
- Design level attitude is defined by a 4° nose-down inclination of the fuselage centre beam
18. Minimum Flight Crew:
- One (1) pilot (left seat)
19. Maximum Passenger Seating Capacity:
- One (1) passenger
20. Baggage/ Cargo Compartments:
- Maximum 25kg baggage
Placed behind the seats, above the fuel tank
21. Wheels and Tyres:
- | | |
|-----------------|---------------------------|
| Main wheel | Beringer JAD01 with brake |
| Main wheel tyre | PAC02 15x6.00-6" 6ply |
| Nose wheel | Beringer JBA02 |
| Nose wheel tyre | PAD01 4.00-6ply |





A.IV. Operating and Service Instructions

- | | |
|--------------------------------|---|
| 1. Flight Manual | LW-RL-Z-002.rev2 (AFM) or later approved revision |
| 2. Maintenance Manual | LW-RL-Z-004.rev1 (AMM) or later approved revision |
| 3. Structural Repair Manual | N.A. |
| 4. Weight and Balance Manual | N.A (contained in AFM) |
| 5. Illustrated Parts Catalogue | N.A. |

A.V. Notes

1. The Rotax 912iS Sport for engine replacement must be accompanied by a EASA Form 1 stating conformity with LW-48-DDP-4001 of Lightwing AG.
2. The Rotax 912iSc Sport, EASA TCDS.E.121 is also eligible for installation which can be installed based on BRP-Rotax GmbH & CoKG EASA Form 1 for this engine.
3. The propeller eligible for propeller replacement must be accompanied by a EASA Form 1 stating conformity with ADxC-48-DDP-4002 of Lightwing AG.





ADMINISTRATIVE SECTION

I. Acronyms & Abbreviations

AFM	Airplane Flight Manual
AMM	Airplane Maintenance Manual
CG	Centre of Gravity
CS-LSA	Certification specification for Light Sport Aeroplanes
DWN	down
IAS	Indicated Airspeed
ICAO	International Civil Aviation Organization
kg	kilograms
km/h	kilometres per hour
MAC	Mean Aerodynamic Chord
RON/ROZ	Research Octane Number/ Research Oktanzahl
SC	Special Condition
VFR	Visual Flight Rules

II. Type Certificate Holder Record

Issue 01/02:

Aircraft Design & Certification Ltd.
Reichensteinstrasse 48
69151 Neckargemünd
Germany

Issue 03/04:

Light Wing AG
Riedenmatt 1
6370 Stans
Switzerland

From Issue 05:

TC Holder:

Light Wing AG
Riedenmatt 1
6370 Stans
Switzerland;

Contracted DOA Holder supporting TC since 21 February 2019:

Aircraft Design Certification GmbH
Reichensteinstrasse 48
69151 Neckargemünd
Germany





III. Change Record

Issue	Date	Changes
Issue 01	17 June 2014	Initial Issue
Issue 02	24 June 2014	Correction
Issue 03	06 August 2015	Transfer of TC holder
Issue 04	10 July 2018	Minor Changes Approval 10056955 Proj 01 heating 02 March 2015 Minor Changes Approval 1005950 Lightwing AC4_Proj 02 landing gear Date 29 February 2015 Major Change Approval 10062701: Proj 03 Rotax 912iS Sport 24 July 2017 Major Change Approval 10064190: Proj 06 Update from V01 to V02 20 December 2017 AFM Approval 10065081 26 March 2018
Issue 05	09 Apr 2019	Update of Chapter A.I. General by adding Type Certificate Holder and Contracted DOA Holder; Update of Administrative Section Cha. II by adding Contracted DOA Holder supporting TC since 21 February 2019

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