

Prezes Urzędu Lotnictwa Cywilnego  
*President of the Civil Aviation Authority*

ŚWIADECTWO UZNANIA ZATWIERDZENIA TYPU  
*Type Approval Recognition Certificate*

NUMER: UL.A.00 – 002/2022  
*Reference:*

Niniejsze świadectwo uznania zatwierdzenia typu zaświadcza, że określony typ/model ultralekkiego statku powietrznego został uznany za akceptowalny w Rzeczypospolitej Polskiej zgodnie z obowiązującymi przepisami polskiego lotnictwa cywilnego i pozostaje w mocy przez czas nieokreślony, chyba że zatwierdzenie zostanie zrzeczone, zawieszono lub cofnięte oraz że został wpisany na listę typów zatwierdzonych prowadzoną przez Prezesa Urzędu Lotnictwa Cywilnego, o której mowa w przepisach wydanych na podstawie art. 33 ust. 2 i 4 ustawy – Prawo lotnicze (Dz.U. z 2022 r. poz. 1235, 1715, 1846 i 2185).

*This Type Approval Recognition Certificate certifies that the ultralight aircraft type/model specified has been found acceptable in Republic of Poland in accordance with the applicable Polish Civil Aviation regulations and shall remain as such for an unlimited duration unless the approval is surrendered, suspended or revoked and has been entered on the list of approved flying device types managed by the President of the Civil Aviation Authority, referred to in the regulations issued on the basis of Art. 33 para 2 and 4 of the Aviation Law Act dated July 3<sup>rd</sup>, 2002 (JL. 2022, item 1235, 1715, 1846 and 2185).*

Państwo projektu  
*State of Design*

Czech Republic

Państwo produkcji  
*State of Manufacture*

Czech Republic

Posiadacz zatwierdzenia typu  
*Type Approval Holder*

TL ULTRALIGHT s.r.o.  
Letiste 515, Pouchov, 503 41 Hradec Kralove, Czech Republic

Oznaczenie typu produktu  
*Product Type Designation*

TL 2000 STING S4/600

Numer zatwierdzenia typu  
*Type Approval Number*

ULL 04/2019

Arkusz danych do zatwierdzenia typu  
*Type Certificate Data Sheet*

ULL 04/2019

Przyjęte wymagania techniczne  
*Type Certification Basis*

UL 2 – Part I, issue I 2019

Uwagi  
*Remarks*

Approved by the Technical Committee of LAA Czech Republic  
on 11.07.2019

EZD ref. LTT-4.5460.6.2022

Z upoważnienia Prezesa Urzędu Lotnictwa Cywilnego  
*On behalf of President of the Civil Aviation Authority*

Marcin Perkowski

Zastępca Dyrektora Departamentu Techniki Lotniczej  
*Deputy Director, Aviation Technical Department*  
(pismo zostało wydane w postaci elektronicznej  
i opatrzone kwalifikowanym podpisem elektronicznym)  
*(the letter was published in electronic form  
and signed with a qualified electronic signature)*

Data pierwszego wydania: 19.12.2022  
*Date of original issue:*

Data ostatniej zmiany: --  
*Date of last revision:*



**Česká amatérská asociace ČR – Light Aircraft Association of the Czech Republic**

## **Type Certificate**

Issued by the Light Aircraft Association of the Czech Republic (hereinafter LAA CR), based on the delegation by the Ministry of Transport to perform the state administration in the matters of sports flying equipment in accordance with the Section 82, Subsection 1 of Act No. 49/1997 Coll. On civil aviation and amending and supplementing Act No. 455/1991 Coll. On Trade Licensing (The Trade Licensing Act) as amended by later regulations of the Ministry of Transport

### **Aircraft type designation:**

Two-seated, single-engine, aerodynamically controlled, all-composite low wing aircraft – Sport Flying Equipment

Type designation: **TL 2000 Sting S4/600**

Maximum take off mass 600 kg incl. the rescue system.

Detailed Technical Specification is stated in the Type Certificate Attachment.

The aircraft comply with requirements for UL 2 – part I, issue 01.2019

### **Type certificate holder:**

**TL-ULTRALIGHT s.r.o.**

Letiště 515, Pouchov

603 41 Hradec Králové

### **Approved by the LAA CR Technical commission on:**

11.7.2019

The Type certificate is registered at the LAA CR under the reference:

**ULL 04 / 2019**

**LAA CR Chief Technical Inspector: ing. Václav Chvála**

Letecká amatérská asociace ČR  
Ke Kabině 289  
102 00 Praha 10  
TEL.: 242 403 587



Type certificate no.:	ULL - 04 / 2019
Type certificate holder:	TL ULTRALIGHT s.r.o.
Typ of aircraft:	TL 2000 STING S4/600
Issue date of attachment:	15.7.2019

**TYPE CERTIFICATE ATTACHEMENT no. ULL - 04 / 2019.**

**I. Generaly**

1. Indication type: **TL 2000 STING S4/600**
2. Category: **Sport plane, aerodynamically controlled ultralight aircraft**
3. Type certificate holder: **TL ULTRALIGHT s.r.o.**  
**Letiště 515, Pouchov,**  
**503 41 Hradec Králové**  
**Czech Republic**
4. Manufacturer: **according to 3. Type certificate holder**
5. Application date: **2.3.2019**
6. Approved on: **15.7.2019**

**II. Regulation base**

1. Airworthiness requirements: **UL 2 - part I., issue 01. 2019, Airworthiness requirements of UL aircraft, Aerodynamically controlled ultralight aircraft**
2. Special requirements: **None**
3. Exceptions: **None**

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### III. Technical datas, performance and operation limits

#### 1. Type of definition:

Type is defined by drawing documentation and by Aircraft type design.

#### 2. Description:

TL 2000 STING S4/600 is dual seater, single engine, low wing aircraft with side by side crew. The aircraft construction is made of glass fibre and carbon fibre composit materials.

The wing is rectangular platform and full composit sandwich airframe carbon – glass fibre. Wing spar is made of carbon composite flanges. The wing is equipped with a folding split flap. The fuselage is all composite. The tail surfaces are classic structures similar to the wing. The chassis is a three-wheel with a steered wheel and spring-loaded steel coil spring. The main undercarriage legs are made of a composite spring and the wheels are equipped with hydraulic disc brakes. The integrated fuel tank is built at the bottom of the fuselage with capacity of 78 liters. The aircraft can be retrofitted with additional tanks in the wings of 22 liters.

Note: the airframe is the same as TL 2000 Sting S4 UL.

#### 3. Equipment:

In order to issue the SLZ airworthiness certificate, the basic equipment corresponding to the airworthiness requirements specified in Chapter II shall be installed on each aircraft manufactured. Regulatory base.

#### 4. Basic Technical datas:

Wing span .....	9120 mm
Lenght .....	6200 mm
Hight .....	2050 mm
Wing	
Wing area.....	10,8 m <sup>2</sup>
Used wing profile .....	MS ( 1 ) - 313
Depth of root profile.....	1404 mm
End profile depth.....	940 mm
Middle aerodynamic bowstring b <sub>SAT</sub> .....	1223 mm
Slenderness wings .....	7,7
Area load at maximum take-off. Weight.....	55,5 kg/m <sup>2</sup>

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	MTOW 600 kg
<b>CAS flight speeds:</b>	
Stall speed with VSO flaps extended	75,0 km/h
Stall speed with VS1 flaps retracted	82,0 km/h
Max. speed with flaps VFE extended	120 km/h
Design turnover rate VA	160 km/h
Max. speed in horizontal flight VH	220 km/h
Max. Unmatched speed VNE	270 km/h
Design speed VD	300 km/h
Take-off distance over 15 m obstacle	405 m
Gradability	5,2 m/sec while 130 km/hod

**7. Center of gravity range:**

Extreme Front operating c.g.:

24% bSAT

Extreme Rear operating c.g.:

33% bSAT

bAT = 1223 mm

Distance of the center aerodynamic chord from the wing leading edge... 5 mm

**8. Operating multiples:**

Maximum positive / negative ..... +4.0 / -2.0.

**9. Engine:**

Rotax 912 UL, Rotax 912UL, Rotax 912 iS, Rotax 914

**10. Engine Operating Limitations:**

Rotax 912 ULS:

Maximum take-off power 73.5 kW / 5800 rpm (for 5 minutes)

Maximum continuous power 69 kW / 5500 rpm.

Rotax 912 UL:

Maximum take-off power 59.6 kW / 5800 rpm (for 5 minutes)

Maximum continuous power 58 kW / 5500 rpm

Rotax 912 iS

Maximum take-off power 73.5 kW / 5800 rpm (for 5 minutes)

Maximum continuous power 69.0 kW / 5500 rpm

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**11. Propeller and its limitation:**

Type: PowerMax

Manufacturer: TL-ULTRALIGHT s.r.o.

Description: in flight adjustable, composite, 3-bladed

Diameter: 1748 mm.

Type: DUC Hélices Swirl

DUC Hélices France

Description: ground adjustable, composite, 3-bladed

Diameter: 1740 mm.

**12. Fuel:**

EUROSUPER RON 95 lead-free to DIN 51607, Ö-NORM 1100 AVGAS 100 LL

BA 95 Natural gasoline is recommended for the Czech Republic

**13. Oil:**

Rotax 912: API SF (SG) or higher oil designed for 4-stroke motorcycles

(with gear lubrication additives)

**IV. Materials for operation and maintenance**

Flight and Operations Manual for TL 2000 STING S 4/600.

+ additions resulting from installation of optional equipment

ROTAX 912 Series Instruction Manual

Technical description and operating instructions for installed propeller

Instructions for use of the rescue system (in case of its installation)

Manuals for optional equipment installed on request

**V. Additions: None**

Comment:

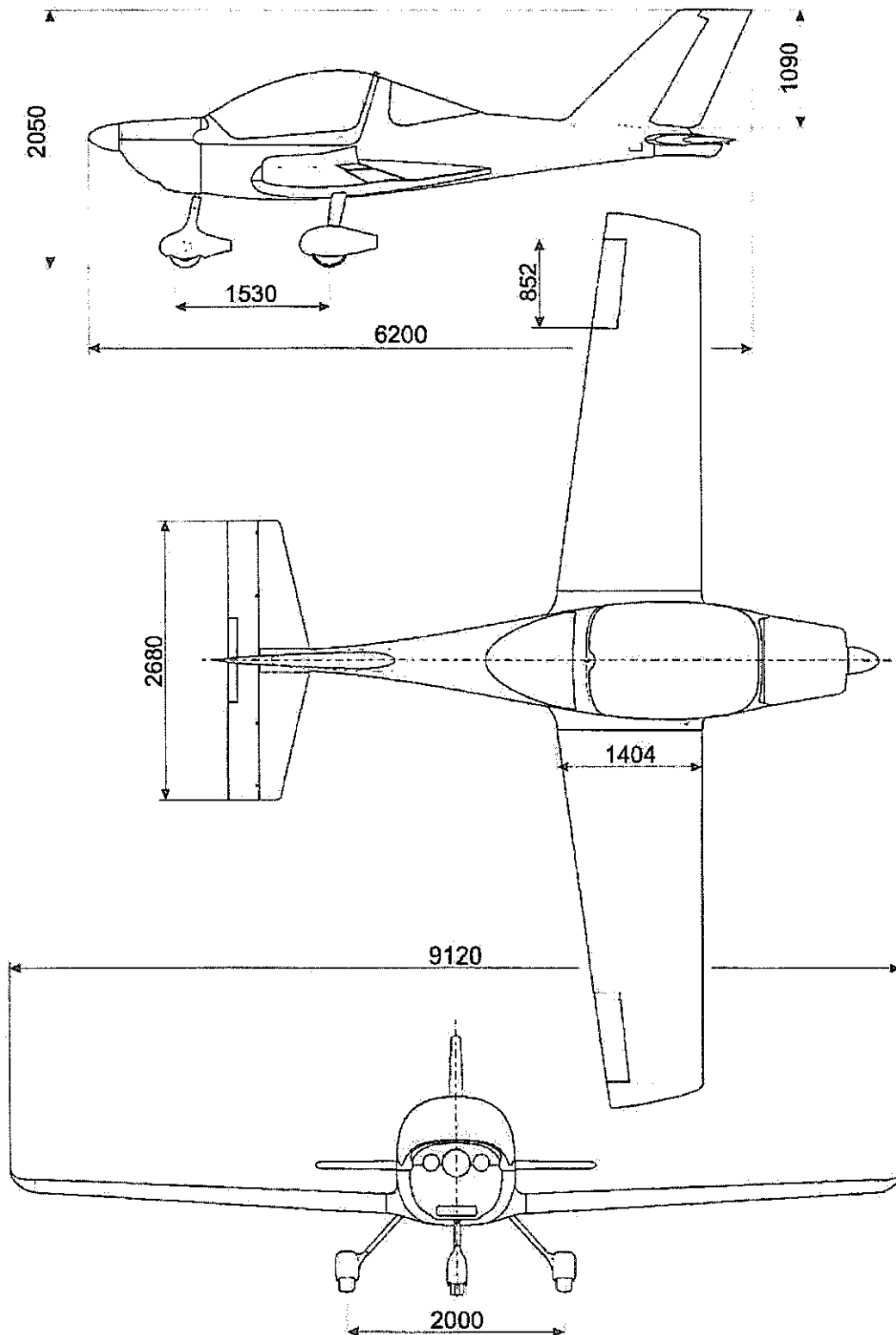
(1) Each aircraft presented for issue of the Technical Specifications Certificate shall be equipped with an up-to-date weighing and positioning report containing a list of equipment included in the empty airplane mass.

(2) The airplane must be equipped with the inscriptions and labels specified in the Flight Manual.

.....End.....

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### Three-view UL TL 2000 STING S4 / 600



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