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Unmanned aircraft — Vocabulary

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Foreword

This Japanese Industrial Standard has been established by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee according to the proposal for establishment of Japanese Industrial Standard submitted by Japan UAV Association (JUAV)/Japanese Standards Association (JSA) with a draft being attached, based on the provision of Article 12, paragraph (1) of the Industrial Standardization Act.

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Unmanned aircraft — Vocabulary

1 Scope

This Japanese Industrial Standard specifies main terms and definitions relating to unmanned aircraft.

2 Classification

The classification of terms relating to unmanned aircraft shall be as follows.

- a) **Classification**
- b) **Parts which constitute the system**
- c) **Design, function and performance criteria of the system**
- d) **Operation of the system**

3 Terms and definitions

Terms and definitions shall be as follows.

The corresponding English terms are also listed for reference.

NOTE 1 When one term represents some concepts, the target field is shown in small letters in parentheses in the same line.

NOTE 2 Since the term of “weight” is used in the sense of “mass” in the Civil Aeronautics Act, “weight” is used in the same way in this Standard.

a) Classification

No.	Japanese term	Definition	English term (reference)
1001	無人航空機, UAV	object which can be flown by manual control or automatic control among those such as an airplane, rotorcraft, aerodone and airship available for aviation which a person cannot board structurally	unmanned aircraft, unmanned aerial vehicle
1011	固定翼無人航空機	unmanned aircraft with a fixed wing surface, which flies by the lift produced on the wing surface	unmanned fixed wing aircraft, unmanned aeroplane
1021	回転翼無人航空機	unmanned aircraft which obtains the lift during flight from the rotor	unmanned rotorcraft
1031	無人ヘリコプタ	unmanned rotorcraft which obtains main lift and propulsion power from two or less rotors which rotate around a nearly vertical axis	unmanned helicopter
1041	マルチロータ無人航空機	unmanned rotorcraft which obtains main lift and propulsion power from three or more rotors which rotate around a nearly vertical axis It is also called multirotor or multicopter.	unmanned multi-rotor aircraft

No.	Japanese term	Definition	English term (reference)
1051	無人航空機システム, UAS	generic term of the system of an unmanned aircraft, and GCS, command & control link, etc. required for the flight	unmanned aircraft system

b) Parts which constitute the system

No.	Japanese term	Definition	English term (reference)
2001	機体	structural section which constitutes an unmanned aircraft such as a main wing, fuselage, tail wing and landing gear	airframe
2011	翼	object which generates aerodynamic force (lift) necessary for an unmanned aircraft to support the weight in the air	wing, airfoil, aerofoil
2021	主翼	wing which generates the most part of lift for supporting the weight of an unmanned fixed wing aircraft	main wing
2031	テーパ翼	wing of which the chord length becomes small linearly from the wing root toward the wing tip	tapered wing
2041	く形翼	wing of which the plane shape is rectangular (constant cord wing)	rectangular wings
2051	後退翼	wing with a swept-back angle	swept-back wing
2061	前進翼	wing with a swept-forward angle	swept forward wing
2071	三角翼	wing with a comparatively small aspect ratio of which the plane shape is triangle	delta wing
2081	ウィングレット	short, near-vertical projection on the wing tip of a main wing designed to reduce induced drag and to increase disposal lift using the effect of the reduction and the thrust component of a wing tip vortex obtained by this structure	winglet
2091	操縦だ面	movable wing surface used to control the attitude and flight direction of an unmanned aircraft It is also called aerodynamic control surface or control surface.	control surface
2101	補助翼, エルロン	movable wing surface attached to the trailing edge of a main wing in order to cause rotational motion (rolling) around the longitudinal axis of an unmanned aircraft by steering	aileron
2111	エレボン	control surface designed to have both two functions of the elevator and aileron attached to the trailing edge of a tailless airplane	elevon
2121	フラップ	device attached to the trailing edge or leading edge of a main wing, which has a function to mainly heighten the maximum lift coefficient by increasing wing area or wing maximum camber, or both of these It is a kind of a high-lift device.	flap

No.	Japanese term	Definition	English term (reference)
2131	フラッペロン	movable wing surface with functions of both a flap and an aileron	flaperon
2141	スポイラ	device attached to a main wing upper surface which decreases lift and simultaneously increases drag by protruding it in airflow and disturbing airflow	spoiler
2151	尾翼	generic term of the wing attached to the tail of an unmanned aircraft in order to take charge of the equilibrium, stability and control of the unmanned aircraft	tail wing
2161	水平尾翼	tail wing which takes charge of vertical equilibrium, stability and control	horizontal tail wing
2171	水平安定板	fixed part of the front section of the horizontal tail wing for the vertical stability of an unmanned aircraft There is also a movable horizontal stabilizer for trim.	horizontal stabilizer
2181	昇降だ, エレベータ	movable wing surface attached to the rear section of a horizontal stabilizer in order to cause rotational motion (pitching) around the lateral axis of an unmanned aircraft by steering	elevator
2191	垂直尾翼	tail wing which takes charge of the stability and control of direction Normally, it is attached to the symmetry plane of an airframe or the plane in parallel with the symmetry plane.	vertical tail wing
2201	垂直安定板	fixed part of the front section of the vertical tail wing for stabilizing the direction of an unmanned aircraft	vertical stabilizer, fin
2211	方向だ, ラダー	movable wing surface attached to the rear section of a vertical stabilizer in order to cause rotational motion (yawing) around the vertical axis of an aircraft by steering	rudder
2221	胴体	section of an unmanned aircraft which accommodates the embarkation and main equipment of the unmanned aircraft	fuselage
2231	フェアリング	cover used for streamlining in order to reduce drag	fairing
2241	フィレット	cover on structural connection for preventing an increase of drag due to airflow interference	fillet
2251	ボルテックスジェネレータ	small pieces arranged at a suitable angle to the airflow and attached to the airframe surface in order to prevent boundary layer separation	vortex generator
2261	パイロン	structural object protruding from the fuselage, wing, etc. of an unmanned aircraft in order to support a power source, a rotor, an embarkation outside the aircraft, etc.	pylon
2271	カウリング	cover placed on an engine, radiator, motor, etc. for decreasing drag or providing protection, or maintaining steady internal airflow	cowling