PRODUCT ENGINEERING / TECHNICAL GUIDE

SV-T30

Tethered drone



Product manual · Selection and application

Specifications / Structure and interfaces / Integration / Operation and care

Reorganized from available model documentation. The agreed specification defines the delivered configuration.

01 / PRODUCT & APPLICATION

Selection and application guide

This version combines an eight-motor aircraft, 500 V DC ground power and an automatic reel for sustained operation over a fixed area. The listed 100 m is cable length: usable height must allow for tether angle, sag, ground routing and safety margin.

Design and application value

A tethered system keeps its main power equipment on the ground and supplies the aircraft through a cable. It can support assessment of sustained lighting, observation and communications over a fixed area. The ground station, airborne power unit, backup supply, tether and reel must be matched as one system.

Choosing the right configuration

Confirm payload mass and power, station-keeping time, target height and site supply. Then assess tether mass, voltage drop and wind loading. Cable length is not usable vertical height: angle, sag, ground routing and obstacles consume length. Ground-station ratings from different versions are not interchangeable.

02 / SPECIFICATIONS 01

Specifications and configuration

Figures follow the available model documentation. The agreed specification defines the delivered configuration.

Parameter	Specification
Motor-to-motor diagonal	1500 mm
Unfolded / working dimensions	1500 × 1500 × 800 mm
Folded / storage dimensions	650 × 650 × 800 mm
Product mass	34 kg
Number of motors	8
Maximum output per motor	6000 W
Maximum thrust per motor	32 kg
Rated payload	30 kg
ESC rated voltage	400-500 V DC
ESC rated current	10 A
Propeller diameter × pitch	32 × 12 in
Propeller material	Carbon-fibre composite
Ground-station model	W30
Ground-station mass	45 kg
Ground-station dimensions	600 × 600 × 600 mm

02 / SPECIFICATIONS 02

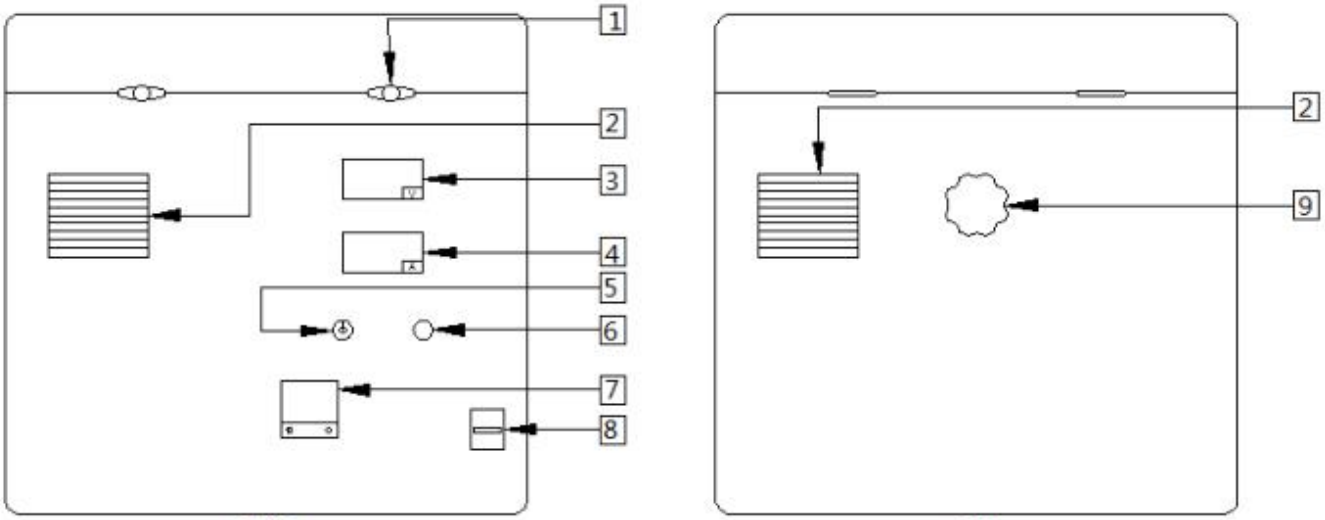
Specifications and configuration

Figures follow the available model documentation. The agreed specification defines the delivered configuration.

Parameter	Specification
Ground-power input	380 V AC, 50-60 Hz
Ground-power output voltage	500 V DC
Rated ground-power output	20 kW
Tether length	100 m
Automatic reel speed	1 m/s
Nominal generator-powered flight duration	8 h

03 / STRUCTURE & INTERFACES

Structure and connection reference



Ground-station panel reference; numbers follow the source drawing.

Number and component	Number and component
1 Lid lock	6 Automatic reel switch
2 Cooling fan	7 Payout display
3 Output voltmeter	8 Main switch
4 Output ammeter	9 Connector cover
5 DC supply switch	

Geometry follows the source. Verify the actual model and approved drawing before installation.

05 / INTEGRATION & CARE

Installation, operation and care

Installation and integration

Before deployment, inspect connector locks, cable insulation, strain relief, cooling and protective grounding. Make connections with power isolated. Follow the fitted controller’s instructions for startup, voltage and backup power. Controlled commissioning should verify reel operation and responses to communication or primary-power loss.

Operation and maintenance

Monitor voltage, current, payout and reel behavior during operation; keep the tether clear of people and obstacles. Afterwards inspect wear, bends, connectors and abnormal heating. Return-to-home or landing behavior must suit the tethered operating envelope and be validated on the fitted system, rather than copied from free flight.

Commissioning record

01 Confirm model, configuration, software and document versions.

02 Record load, environment, supply and mission conditions.

03 Verify protective functions, stopping and abnormal-condition responses.

04 Retain key readings, photographs and inspection records; agree a maintenance plan.

06 / OPERATING BOUNDARIES

Operating boundaries and technical review

01 Operation requires trained personnel familiar with the fitted configuration. Isolate power and prevent unintended startup before servicing or connection changes.

02 This guide covers selection, structure and operating principles. Controller calibration, arming commands, LED codes and failsafe actions vary by version; use the confirmed procedure for the delivered controller. Do not infer actions from unclear symbols in a legacy scan.

03 Assess electrical, rotating-part, pinch-point and work-at-height risks for the actual site. Keep people clear of propellers, tracks, manipulators and loaded cables as applicable. Stop and inspect when abnormal conditions arise.

04 Reference range, duration, slope and productivity figures are not guarantees for every environment. Revalidate system performance and protective behavior after changing payload, power, controller or structure.

05 Product names and protection descriptions do not replace certificates. For explosive atmospheres, firefighting, aviation or special environments, confirm the applicable documentation and its match to the delivered configuration.

07 / DOCUMENT NOTES

Specification and configuration notes

01 The source lists eight hours of generator-powered flight. Actual duration depends on fuel, load, environment and operating procedures. Ground-station power and maximum output per motor are different ratings.

Source and edition

Technical data have been reorganized from the available product attachment and project documentation. Originals are retained in the project archive. Layout edition: September 2026.

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Use the mutually confirmed delivery documents for purchasing, installation and acceptance. If drawings, nameplates or hardware differ from this guide, verify the applicable model and version before operation.

Business enquiries: see the next page.

Business enquiries

Product selection · Project enquiries · Technical support

SV-T30

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