



## Flight Test Boom FTB-1

The Flight Test Boom FTB-1 is a small and light air data boom designed to be used on UAVs and drones. The boom features the PSS-8 pitot-static probe, an AoA vane (angle of attack) and an AoS vane (angle of side-slip). The vanes have a large angular travel of more than  $\pm 140^\circ$ . An additional fast and precise OAT-sensor allows to compute true airspeed and other flight parameters.



The FTB-1 air data boom can be used with the extended ADC-10X air data computer. The ADC-10X is based on the well known ADC-10 but enhanced with two inputs for the vanes. The extended ADC outputs additional AoA and AoS data labels over the RS-485 data interface. The data labels are calibrated and aerodynamically corrected for zero-point and non-linearity.

### Key Features FTB-1

- Small and light
- Made from carbon fiber and aviation grade aluminum
- Range of AoA and AoS vanes  $\pm 140^\circ$
- Calibrated and tested in the wind-tunnel
- Potentiometers work from  $-55^\circ\text{C}$  up to  $+105^\circ\text{C}$

### Key Features ADC-10X

- Based on well known ADC-10
- Two additional inputs for AoA and AoS vanes
- Calibration and correction data stored in non volatile memory
- Calibrated data AoA and AoS data labels over RS-485 data interface

## Flight Test Boom FTB-1

Length	0.800 m (customized length on request)
Mass	0.200 kg
Material	Carbon fiber and aviation grade aluminum
Functions	Pitot-Static Pressure, AoA-Vane, AoS Vane
Pressure Connectors	PT: SMC M-5H-4 (ID $\varnothing 2$ mm, OD $\varnothing 4$ mm) PS: SMC M-5H-4 (ID $\varnothing 2$ mm, OD $\varnothing 4$ mm)
Electrical Connector	Binder 711 4Pin Female P1: VCC P2: GND P3: Signal AoA P4: Signal AoS
Airspeed Range	– Below 15 m/s hysteresis error can increase – Tested in wind-tunnel up to 70 m/s – Flying experience up to about 130 m/s (250 KCAS)



# Swiss Air Data System

Simtec AG



## Vane-Potentiometer

Sensor Type	Miniature Potentiometer
Technology	Conductive Plastic, 2 Ball Bearings
Mechanical Range	360° no stop/free rotation
Measurement Range	Free Rotation, 300°±5° ±140° evaluated in ADC
Nominal Resistance	10 kΩ
Resistance Tolerance	±5%
Smoothness of Output Voltage	<0.1% (Mil-R-39023)
Loading Capacity at +40°C/+125°C	0.2/0.0 W
Max. Contact Current	10 μA
Recommended Contact Current	1 μA
Linearity Tolerance:	1%
Lifetime	>10 million turns
Breakaway Torque	0.1 Ncm
Operating Temperature	-55°C .. +105°C

## Part-Numbers

FTB-1	SIM-6D0-87B
ADC-10X	SIM-F0D-504 (for full P/N see data-sheet)
PSS-8 Tip Cover	SIM-6D6-C12
PSS-8 Pressure Test Adapter	SIM-DAB-997
Vane Calibration Fixture	SIM-2F4-3C0
Vane Protection Covers	SIM-C8F-4D9 (two per boom required)
Installation Brackets	SIM-09A-94A

## Contact Information

Simtec AG  
Gewerbestr. 7/7A  
CH 4147 Aesch BL  
SWITZERLAND

Tel.: +41 61 703 0222  
E-mail: [info@swiss-airdata.com](mailto:info@swiss-airdata.com)  
Web.: <http://www.swiss-airdata.com>

12.06.2023  
Release 7



**swiss-airdata**  
[www.swiss-airdata.com](http://www.swiss-airdata.com)

Simtec AG  
Gewerbestr. 7  
4147 Aesch BL  
Switzerland

Tel.: +41 61 7030222  
E-Mail: [info@simtec.ch](mailto:info@simtec.ch)