

Features

- Three independent pressure control channels for altitude, airspeed and angle of attack
- High accuracy resonant silicon sensors on all channels, RVSM compliant
- Rugged, rainproof construction
- Small and light weight for flightline mobility
- Internal pressure and vacuum generation, very high pump reliability
- Simple user interface, high visibility colour display, touch screen input
- Manual or stored test sequence operation
- Limits protection for aircraft instruments
- Designed specifically to test the Embraer 170 family of aircraft
- Universal/Aircraft AC power input
- RS232 port for PC control or test data transfer

Applications

- Provides full support for fault finding and validation on all aircraft air data system maintenance tasks
- Provides testing solutions for the 'smart probe' systems
- Testing automation via Embraer test scripts that replicate the aircraft maintenance manual

ADTS 205

Druck three channel Air Data Test System

ADTS 205 is a Druck product. Druck has joined other GE high-technology sensing businesses under a new name—GE Industrial, Sensing.



ADTS 205 Specifications

The ADTS 205 is a rugged, light weight 3 channel air data test set, providing all the accuracy and versatility required for fast and efficient flightline ground support of both 2 port Pitot Static and 3 port 'smart probe' air data systems on all civil aircraft.

Aircraft Safety

The safety of aircraft systems during testing is paramount at all times and the design of the ADTS 205 makes no concessions against quality, reliability and accuracy. It incorporates all the best performance and protection features that are so valued by users of Druck air data test sets throughout the aviation industry.

User Interface

Use of the latest robust display and touch screen technologies provides unparalleled clarity and simplicity of use for both first time and experienced air data test set operators. Information screens are task based, providing clear choices for the operations being performed.

Routine Testing Using Stored Aim Sequences

The ADTS 205 can make even complex or extended test procedures a simple error free operation requiring no numeric data entry from the operator. Checked and protected scripts may be prepared and named by engineering supervisors using basic office spreadsheet programs.

Once stored within the ADTS 205 these may be safely used again and again requiring only one key press to step on to the next test. Test scripts may embed simple displayed messages to clarify expected responses or actions at any test point.

ALTITUDE AND AIRSPEED						
CONTROLLING						
Ps 1	29.3845	inHg	-0.0005	inHg/min	Control Leak Measure	
Ps 2	29.3845	inHg	0.0013	inHg/min	Up	
Pt	29.5041	inHg	0.0271	inHg/min	Down	
Test Advice Notes			Control Channel Aims			
TP	Feet	Knots	Ps1 inHg	Ps2 inHg	Pt inHg	
(a)	0	0	29.9212	29.9212	29.9212	Main Menu
(b)	500	50	29.3845	29.3845	29.5043	Ground
(c)	1,000	100	28.8557	28.8557	29.3371	
(d)	4,000	200	25.8418	25.8418	27.8007	
(e)	10,000	400	20.5770	20.5770	28.9619	
Requested Rate Per Minute			4.0000	4.0000	4.0000	Communications

Full Manual Control Testing

For non-routine or diagnostic testing then the operator may choose manual control of the individual air data parameters. Simply touch and highlight the required field then type in the new aim. Data may be entered in a full range of either aeronautical or pressure units for which quick access defaults may be assigned.

MANUAL CONTROL			
Control Mode			
Ps1	1006.90 mbar AIM = 900.00	0.00 mbar/min AIM = 100.00	Control Leak Measure
Ps2	1006.87 mbar AIM = 1006.87	0.00 mbar/min AIM = 100.00	
Qc	50.23 mbar AIM = 50.25	0.00 mbar/min AIM = 100.00	
7	differential Ps outside limit - use hold		Aero Units
4	OK		
1			
Altitude Correction: Off			

When manually testing sensitive systems such as angle of attack probes, new pressure aims and measurements are always checked against a set of default limits. Any potentially hazardous actions are always advised to the equipment operator.

Automated Leak Rate Testing

An automated leak test may be simply configured with programmable timed average period including a preliminary wait period for thermal settling. The test may be performed at any time during either routine or manual diagnostic tests.

RATE TIMER			
CHANGE TIMES OR SELECT START			
Ps1	0.12 mbar/Min	WAIT	01:00 Secs
Ps2	0.27 mbar/Min	PERIOD	01:00 Secs
Qc	0.32 mbar/Min		
7	8	9	0
4	5	6	: CLR
1	2	3	ENTER
			Start
			Cancel
			Save Settings
			Back

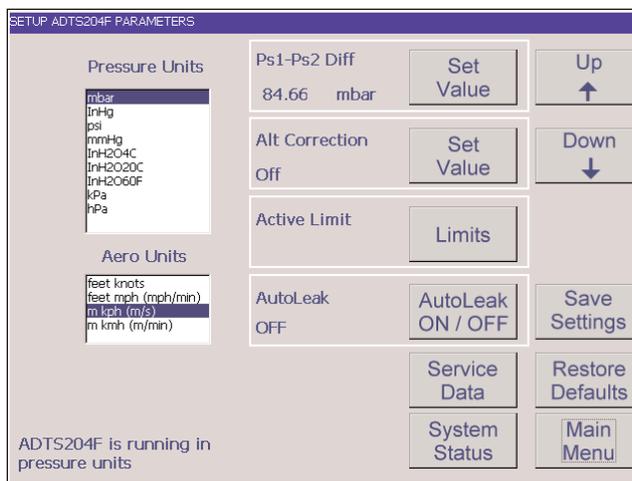
Return Aircraft to Safe Ground Pressures

On command, the ADTS will automatically return the connected aircraft systems to the correct safe pressures that match the current ambient so that pipes may safely be removed.

ADTS 205 Specifications

Configuration of Preferred Units

A simple set up screen allows choice from a large array of common pressure and aeronautical units. Preferences can be saved as defaults for each type. Values already entered or displayed will automatically be updated to the chosen units. In manual control, a single key will change the displayed data values between aeronautical or pressure formats in the chosen units.



Altitude Correction

Differences in height between the pressure sensors of the aircraft and the air data set may be simply configured to avoid barometric offsets when performing altimeter checks.

Internal Pressure and Vacuum Source

The internal pressure and vacuum generation system uses GE's own robust technology components, quiet, high efficiency and with proven reliability after many years continuous service in both commercial and military applications. The standard service interval for seal changes is 3000 pump operating hours. A record of operational hours is retained within the equipment to assist with planning service schedules.

Detailed Air Data Specifications

Ps 1 Port

Pressure Mode

Control Range: 35⁽¹⁾ to 1088 mbar a
Measure Range: 27.6 to 1050 mbar a
Display Resolution: 0.01mbar
Accuracy: ±0.1 mbar
Rate Range: 0 to 1000 mbar/min
Rate Accuracy: ±1% of aim (avg.)

Aeronautical Mode

Control Range: -1000 to 55,000 ft.
Measure Range: -3000 to 80,000ft.
Display Resolution: 1 ft.
Accuracy: ±3 ft. (@sea level)
±7 ft. (@30,000 ft)
±23 ft. (@55,000 ft)
Rate Range: 0 to 20,000 ft/min
Rate Accuracy: ±1% of aim (avg.)

Ps 2 Port

Pressure Mode

Control Range: 35⁽¹⁾ to 1088 mbar a
Measure Range: 27.6 to 1050 mbar a
Display Resolution: 0.01mbar
Accuracy: ±0.1 mbar
Rate Range: 0 to 1000 mbar/min
Rate Accuracy: ±1% of aim (avg.)

Aeronautical Mode

Control Range: -1000 to 55,000 ft.
Measure Range: -3000 to 80,000 ft.
Display Resolution: 1 ft.
Accuracy: ±3 ft. (@sea level)
±7 ft. (@30,000 ft)
±23 ft. (@55,000 ft)
Rate Range: 0 to 20,000 ft/min
Rate Accuracy: ±1% of aim (avg.)

Pt Port

Pressure Mode

Control Range: 35⁽¹⁾ to 2600 mbar a
Measure Range: 27.6 to 3000 mbar a
Display Resolution: 0.01 mbar
Accuracy: ±0.35 mbar

Aeronautical Mode

Control Range: 20 to 650 kts.
Measure Range: 0 to 650 kts.
Display Resolution: 0.1kts.
Accuracy: ±0.5 kts

⁽¹⁾ Limited only by vacuum pump/system leaks

GE Sensing

General Specification

Electrical Connection

90 to 260 Vac, 47 to 400 Hz, 240VA waterproof cable connector supplied,

Pneumatic Connection

Ps1 and Ps2 AN6 flare, Pt AN4 flare. Retained protection caps on all ports.

Calibrated Temperature

+5°C to +35°C

Operating Temperature

0°C to +50°C

Storage Temperature

-20°C to +70°C

Humidity

0 to 95% non-condensing

Shock and Vibration

BS EN61010 MIL-T-28800 Class 2

EMC

BS EN61326-1

Safety

Electrical BS EN61010,
Pressure Equipment Directive (PED),
Class SEP. CE marked

Display

640 x 480 pixel high contrast backlit colour LCD,
resistive touch screen user interface.

Data Communications

CANbus (hand terminal), RS232 (ext. P.C.)
All terminate on rugged 13 way circular
MS38999 series connector

Size (L x W x H) and Weight

550 mm x 400 mm x 391 mm, 25 kg
Handle extends to 530 mm beyond case

Accessories

IO204A

ATEX zone 2 compliant remote hand terminal, 640 x 480 colour, touch screen



IO204B

Lid mounted multi-port break out panel for hose distribution (standard shown)



Ordering Information

ADTS 205

Please state the model number ADTS 205 (listed accessories will be standard items for Embraer.)

Each unit is supplied with a 5 m power cable, 18 m hand terminal cable, 3 x 1 m colour coded hoses and fittings for outputs to the lid distribution panel (Ps1, Ps2 - AN6, Pt-AN4), connector 'O' ring and spare fuse kit, operating handbook and calibration certificate.



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