ADTS550F

(ADTS552F, ADTS553F, ADTS554F)

Pitot Static Tester

Applications and Indutries

Pitot Static testing of aircraft and avionic equipment in:

- Aerospace, Defence and Space

Highlights

- Cockpit controlled using ADTS Touch hand terminal with Bluetooth® wireless technology
- Accuracy suitable for RVSM validation
- 15-month accuracy standard, 18-month accuracy option
- Available in a 2-channel, 3-channel or 4-channel configuration
- Retrospectively upgradeable (ADTS552F upgradeable to a 3-channel or a 4-channel and ADTS553F upgradeable to a 4-channel)
- Druck ADTS global service support
- Patented integration with Viavi AVX-10K Flight line test set for combined pitot-static and Mode-S / Mode-C testing
- Simple semi-automated calibration using PACE Tallis
- 24 months warranty as standard

ADTS Touch

The ADTS Touch is a removable, robust wireless hand terminal that communicates to the test set via secure Bluetooth® wireless technology. This technology and the innovative design of the ADTS Touch remove the need to run cables or hoses into the cockpit.**

A rechargeable battery pack enables up to eight hours of continuous ADTS Touch wireless use. The battery can be charged by the ADTS Touch when connected to the test set, by power cable, or by an optional desk charger.

As an alternative, the ADTS Touch can be used as a conventional wired hand terminal, with or without a battery pack, by attaching a supplied cable, or as a local user interface by docking the hand terminal onto the ADTS550F.

A large, easy-to-read display in pressure or aeronautical units and swipe navigation, with intuitive icons that are logical and easy to remember, allow you to quickly scroll through available tasks. The ability to set "aircraft safety limits," enable "auto leak recovery" and save or recall aircraft test sequences make the ADTS Touch an easy-to-use hand terminal. Its multi-language selection further enhances the ADTS Touch's usability.

For the more demanding wireless application, such as a large aircraft outside of a hanger (nothing for the wireless signal to bounce off), the ADTS Touch-ER offers a solution. The ADTS Touch-ER extends the wireless range, by the use of a fixed external antenna, or by using the supplied window attach antenna.

**Due to individual country radio license requirements, Bluetooth® wireless technology may not be available in some countries. An up-to-date list of countries that the ADTS Touch with Bluetooth® wireless technology is licensed to be used in is available upon request from Druck.

ADTS550F (ADTS552F, ADTS553F, ADTS554F)

The ADTS550F, supplied with an ADTS Touch, is a family of portable, self-contained pitot static testers, with a large pitot static volume capability for use on an extensive range of aircraft. With the option of a 2-channel, 3-channel or 4-channel model, the ADTS550 is ideal for most light to wide body passenger and freight aircraft. Because business needs change such as the addition of new aircraft to the fleet, the ADTS550F family can be retrospectively upgraded by Druck.

To ensure an accuracy that is suitable for RVSM (Reduced Vertical Separation Minimum) validation, the new ADTS550F incorporates advanced Druck TERPS (trench etched resonant pressure sensor) technology.

To satisfy the demand for a smooth rate of change into a high pitot static volume, the ADTS550F uses Druck proportional control technology coupled with a large pump capacity.

ADTS550F Standard Specifications

- ADTS550F pitot static tester
- ADTS Touch hand terminal
- AC power lead: 1.8 m (6 ft) length approximately
- ADTS Touch remote connecting cable: 1X 5m (16ft) and 1X 18m (59 ft) length approximately
- ADTS Touch battery pack
- ADTS Touch AC power supply unit
- Pack of Ps and Pt color labels
- Multi-language installation manual
- Accessories bag
- Operator manual (installed in ADTS Touch)
- Calibration certificate traceable to international standards

ADTS552F

The ADTS552F, supplied with an ADTS Touch, is a portable, self-contained 2-channel pitot static tester. The ADTS552F is designed to be connected to the aircraft Ps and Pt ports via hoses to leak check and accurately control pressures that simulate altitude, airspeed and rate of climb. The ADTS552F can be retrospectively upgraded by Druck to an ADTS553F or ADTS554F.

ADTS553F

The ADTS553F, supplied with an ADTS Touch, is a portable, self-contained 3-channel pitot static tester. The ADTS553F has the same 2-channel capability as the ADTS552F with the addition of a third pressure controller to connect to an aircraft Ps2 and simulates "angle of attack" (AOA). The ADTS553F can also be used as 2-channel pitot static tester by selection in the set up menu on the ADTS Touch. The ADTS553F can be retrospectively upgraded by Druck to an ADTS554F.

ADTS554F

The ADTS554F, supplied with an ADTS Touch, is a multi-purpose 4-channel portable, self-contained pitot static tester.

By selection in the set up menu on the ADTS Touch, the ADTS554F:

- Operates as a 2-channel pitot static tester with the same capability as the ADTS552F
- Operates as a 3-channel pitot static tester with the same capability as the ADTS553F.
- Operates as two independent 2-channel pitot static testers for simultaneous testing of two pitot static systems.

Simple PACE Tallis Calibration

As standard, all models are available with a simple 2 point calibration routine which utilises PACE Tallis as the pressure reference and the ADTS internal pump as the pressure source.

All sensors can be calibrated or checked at the same time through a connection to the Pt port on the unit. With this simple intuitive process calibration of the ADTS550F takes a matter of minutes.

Viavi AVX-10K Flight line test set integration

Available as a paid option, the simple integration of the 2 class leading technologies of ADTS 550F pitot-static tester and Viavi AVX-10K flight line test set enables end to end loop testing for Mode-S and Mode-C transponder testing procedures whilst carrying out pitot static testing.

This patented functionality offers clear time savings and efficiency improvements to aircraft maintenance operations. Requires AA500F-50 and AAADS-B accessories.

Viavi AVX-10K Flightline

ADTS Touch ADS-B control screen

ADTS550F and ADTS Touch Specifications

Scaling Factors

- Altitude: ft, meters
- Airspeed: knots, km/hr, mph
- Rate of Climb: ft/min, m/min, m/s
- Others: mbar, inHg, inH2O, mmHg, kPa, hPa, psi

Rate Control/Indication

- Roc: Rate of Climb
- Rt Ps: Rate of Static
- Rt Pt: Rate of Pitot
- Rt Qc: Rate of Pt-Ps
- Rt CAS: Rate of calibrated airspeed
- Rt EPR: Rate of engine pressure ratio

Overpressure

Negligible calibration change with up to 1.25 x full scale (FS) overload applied

Calibration Stability

ADTS550F: Better than 0.05 mbar (Ps) and 0.05 mbar (Pt) over 15 months

ADTS550F-E3: Better than 0.05 mbar (Ps) and 0.05 mbar (Pt) over 18 months

PACE Tallis
Transfer Standard Calibrator

ADTS550F and ADTS Touch Specifications (cont.)

Parameter	Operating Range	Resolution	ADTS550F 15 mth Accuracy1	ADTS550F-E3 18 mth Accuracy *
Altitude (EALT Option)	-3,000 to 60,000 ft (-3,000 to 65,000 ft)	1 ft	±3 ft at sea level ±7 ft at 29,000 ft ±12 ft at 41,000 ft	±3 ft at sea level ±7 ft at 29,000 ft +/-12 ft at 41,000 ft
Ps1 and Ps2 Aeronautical	56 to 1,130 mbar abs	0.01 mbar	± 0.10 mbar abs	± 0.10 mbar abs
Ps1 and Ps2 Measurement	35 to 1,400 mbar abs	0.01 mbar	±0.10 mbar abs	±0.10 mbar abs
Standard Airspeed (SCAS)	20 to 650 knots	0.1 kt	±1.2 kt at 20 kts ±0.5 kt at 50 kts	±1.2 kt at 20 kts ±0.5 kt at 50 kts
Standard Airspeed Pt1 and Pt2	56 to 1,997 mbar abs	0.01 mbar	±0.11 mbar abs	±0.11 mbar abs
Low Airspeed Option (ECAS)	20 to 650 knots	0.1 kt	±0.7 kt at 20 kts2 ±0.3 kt at 50 kts	±0.7 kt at 20 kts2 ±0.3 kt at 50 kts
Low Airspeed Option Pt1 and Pt2	56 to 1,997 mbar abs	0.01 mbar	±0.10 mbar abs	±0.10 mbar abs
Pt1 and Pt2 Measurement	35 to 1,997 mbar abs	0.01 mbar	±0.11 mbar abs	±0.11 mbar abs
Rate of Climb	0 to 20,000 ft/min	1 ft/min	±1% Aim	±1% Aim
Mach3	0 to 2.0	0.001	Better than 0.005	Better than 0.005
Engine Pressure Ratio (EPR)	0.1 to 10	0.001	Better than 0.005	Better than 0.005

1. Accuracy over operating temperature includes: calibration uncertainty, non-linearity, hysteresis, repeatability, measurement stability over calibration period and control stability

2. Auto zero must be enable

3. Depends on altitude at max Qc

Recalibration

Simple keypad instruction, use of primary standard pressure reference is recommended.

Display

7" WVGA (800X480) TFT, LED back lit display. High contrast ratio, wide view angle, two readings-per-second update.

Power Supplies

Auto-selection between:

110/230 Vac, 50/60 Hz and 115 Vac, 400 Hz

Power – 200 VA (ADTS552F)

Power – 300 VA (ADTS553F/ADTS554F)

Power Failure Protection

System locks and a manual let-down feature provided

Self Test

Integral test routines and reporting for both electrical and pneumatic systems

Temperature Range

- Storage: -20°C to 70°C (-4°F to 158°F)
- Operating: -5°C to 50°C (23°F to 122°F)
- EALT option Operating: -5°C to 40°C (23°F to 104°F)

Humidity

0 to 95% non-condensing

Environmental

Vibration, shock/drop and solar radiation to MIL-PRF-28800F Class 2

Conformity

EMC EN61326, LVD EN61010 (Electrical safety, PED, WEEE, CE marked)

Physical

- ADTS552F base weight: 22.0 kg (48.5 lb)
- ADTS553F base weight: 23.5 kg (52 lb)
- ADTS554F base weight: 24.5 kg (54 lb)
- Base unit dimensions: H 300mm, D 425mm, W 525mm (H 11.8 in, D 16.7 in, W 20.7 in) (base unit including lid).
- Hand terminal weight: 1.1 Kg (2.4 lb), battery 0.4 Kg (0.9lb)
- Hand terminal dimensions: H 153mm, D 58mm, W 223mm (H 6 in, D 2.3 in, W 8.8 in)

Pneumatic Connections

AN6 for Ps1 and Ps2

AN4 for Pt1 and Pt2

Sealing

Weatherproof in operating mode (lid removed). Base unit IP23, ADTS Touch IP65

Pneumatic Supplies

Integral pressure and vacuum pumps capable of generating:

- 1,829 m/min (6,000 ft/min) into a 6L total volume (Ps 4L + Pt 2L) up to 9,144 m (30,000 ft)
- Water/moisture content vented automatically

Options and accessories

Options

Option – Low Airspeed

To facilitate the testing of aircraft with low airspeed such as helicopters, the ADTS550F low airspeed option offers an improved QC measurement accuracy.

Option – EPR Test

Engine Pressure Ratio (EPR) test (Pt/Ps for inlet/exhaust)

Option – ADTS Touch-ER

ADTS Touch-ER with external antenna for greater Bluetooth® range

Option – EALT

Extended altitude range: -3,000 to 65,000 feet

Option – ADTS550F-E3

ADTS552/3/4F with 18-month accuracy (includes one UKAS calibration with new instrument)

Option –ANX

ANX – Standard AN6 connector (static) / AN4 Connector (pitot)

AN4 – Option for all connectors to be AN4

Accessories

Part number	Description
AATOUCH-4	ADTS Touch carry case
AA500F-7	Additional ADTS Touch remote connecting cable – 5 m (16 ft) length approximately (can be connected to ADTS Touch connecting cable for 10 m (32 ft) total length)
AA500F-8	Additional ADTS Touch remote connecting cable – 18 m (59 ft) length approximately
AATOUCH-5	ADTS Touch battery pack AC desk charger (state mains lead requirement, US, UK or EU)
AATOUCH-1	Additional ADTS Touch battery pack
ADTSTOUCH	Additional ADTS Touch hand terminal (state mains lead requirement)
ADTSTOUCH-ER	ADTS Touch with external antenna for greater Bluetooth® range (state mains lead requirement)
AA500F-1	Pressure connector AN3 male
AA500F-2	Pressure connector AN4 male
AA500F-3	Pressure connector AN6 male
AA500F-4	2 X Staubli quick fit female pressure connector kit (2 X G 1/8th plus 1 X red dot Staubli plus 1 X black dot Staubli)
AA500F-5	Pressure connector AN4 to Hansen quick fit male
AA500F-6	Manifold, one way + one way switched
AA500F-9	Pressure connector AN6 to Hansen quick fit male (does not include AN6 connector, part number AA500F-3 is also required)
AA500F-10	Bulkhead service kit for 1 connector
AA500F-17	Black hose (please state length in meters or feet)
AA500F-18	ADTS552F accessories bag
AA500F-19	Red hose (please state length in meters or feet)
AA500F-20	Blue hose (please state length in meters or feet)
AA500F-21	Hose pressure connector AN3 female
AA500F-22	Hose pressure connector AN4 female
AA500F-23	Hose pressure connector AN6 female
AA500F-24	2 X Staubli quickfi t male hose pressure connector kit (1 X red dot Staubli plus 1 X black dot Staubli)
AA500F-25	Hose pressure connector AN4 Hansen quick fit female
AA500F-27	Hose pressure connector AN6 Hansen quick fit female
AA500F-41	10m (33 ft) length approximately mains lead - UK plug
AA500F-42	10m (33 ft) length approximately mains lead - Japan plug
AA500F-43	10m (33 ft) length approximately mains lead - Europe plug
AA500F-44	10m (33 ft) length approximately mains lead - USA plug
AA500F-45	10m (33 ft) length approximately mains lead - India plug
AA500F-46	10m (33 ft) length approximately mains lead - China plug
AA500F-47	10m (33 ft) length approximately mains lead - Australia/New Zealand plug
AA500F-48	10m (33 ft) length approximately mains lead - South Africa plug
AA500F-50	ADTS to Viavi Interface Cable
AAADS-B	Retrofit of Viavi ADS-B Test

Ordering information

1. Select model number

ADTS552F		2-channel pitot static tester, CW ADTS Touch
ADTS553F		3-channel pitot static tester, CW ADTS Touch
ADTS554F		4-channel pitot static tester, CW ADTS Touch
	E0	15 Month Accuracy Option
	E3	18 Month Accuracy Option
	SCAS	Standard Airspeed Accuracy
	ECAS	Low Airspeed Option
	SR	ADTS Touch Standard Range Bluetooth®
	ER	ADTS Touch Extended Range Bluetooth®
	ANX	ANX – Standard AN6 connector (static) / AN4 Connector (pitot)
		AN4 – Option for all connectors to be AN4
ADTS552F	**E0**	**SCAS** **SR** **ANX** Typical Model Number

2. Options

- EPR
- Wireless Disabled
- EALT

3. Mains lead

Choose one from this list:

- MAINS LEAD - UK PLUG
- MAINS LEAD - JAPAN PLUG
- MAINS LEAD - EU PLUG
- MAINS LEAD - USA PLUG
- MAINS LEAD - SOUTH AFRICA
- MAINS LEAD – INDIA PLUG
- MAINS LEAD - CHINA PLUG
- MAINS LEAD - AUSTRALIA/NEW ZEALAND PLUG

4. Country of use

Please state country of use for Bluetooth® wireless technology setup.**

** Due to individual country radio license requirements, Bluetooth® wireless technology may not be available in some countries. An up-to-date list of countries that the ADTS Touch with Bluetooth® wireless technology is licensed to be used in is available upon request from Druck.

5. Accessories

Please state any accessories required as separate items when placing order.

Warranty terms

New product is supplied with an initial warranty of 24 months. For peace of mind, extend coverage on your equipment beyond the initial period up to a total four-year term.

Supporting services

Should your equipment need calibration or maintenance, our global repair facilities are happy to serve.

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920-659K

BHCS38661A (03/2026)

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