

EvoScann®

P10-D DIFFERENTIAL PRESSURE SCANNER

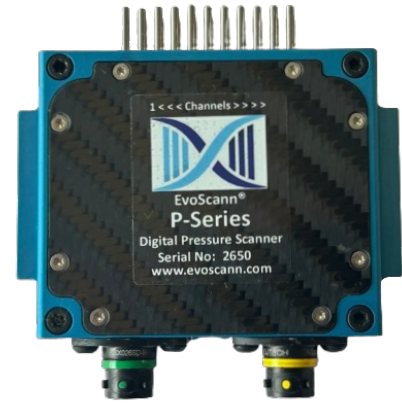
KEY FEATURES:

- ✓ Based on proven EvoScann® Technology
- ✓ Mechanical interface fully customisable
- ✓ Specifically adapted for the Flight Test Environment
- ✓ First 10-channel true-differential pressure scanner
- ✓ Tube lengths minimised or eliminated - improved frequency response
- ✓ Highest measurement resolution
- ✓ Design includes direct aerospace-specific communication protocol
- ✓ Highly robust

EvoScann® pressure scanners are globally proven in a wide range of aerodynamic test applications to provide the highest quality of data commercially available and are trusted by some of the most recognisable names in the market. They are compact, light ultra-robust and provide direct differential pressure measurement in engineering units over digital communications protocols at high data rates with the highest possible measurement fidelity. Close coupling of the scanner to the test location provides the fastest possible frequency response, high accuracy, fully characterised pressure sensors measure the pressure and this is run through 24-bit A/D converters to be multiplexed and output at data rates of up to 2kHz per channel. Multiple scanners can be daisy chain connected and run on the same network. True-differential sensors are used for maximum accuracy and resolution while a separate, strategically located barometric sensor is incorporated to enable simultaneous mapping of the static pressure at each location.

Small, Light and Fully Customisable

Even with the relevant modifications for the Flight Test Instrumentation (FTI) environment, EvoScann® provides ultra-compact dimensions and weights. All EvoScann® instruments are small enough to be able to be located physically close to the measurement point of interest enabling frequency response considerations to be significantly mitigated if not completely eradicated. This has a pronounced impact on the overall quality of the measurement and enables deeper knowledge of the test article to be gained. Physical size is small, weight is kept to a minimum and the need for installation ancillaries is significantly reduced.



Plug and Play

All EvoScann® instruments are a direct-digital output, the P10-D has been designed from the outset to provide direct aerospace-specific communication protocol, and configured to provide direct, temperature compensated, ultra-high resolution pressure data in engineering units. Multiple units can be configured to run on the same network. The scanners are designed to mechanically connect directly to their relevant flow-probe or rake counterpart with no need for installation ancillaries making for a more compact installation and operation.

Robust

Over 2,000 EvoScann® pressure scanners operate globally in some of the most challenging environments imaginable, on aerospace and aviation applications including drones, automotive, and motorsport installations where vibration and temperature impacts are very high and EvoScann® continues to function, reliably. The FTI versions have been designed for the arduous environments of the Flight Test world, where increased vibration, thermal extremes and the requirement for ultimate reliability exists. Specific mounting configurations can be produced.

Accurate

In an environment where accuracy and data integrity is key, EvoScann® delivers. Latest generation pressure sensor technology is used, sensors are selected, matched, assembled and then tested to ensure their ability to deliver. A deep and sophisticated process of characterisation and calibration is imposed to ensure that the sensors are both accurate and reliable but also exhibit low drift characteristics for high levels of long-term performance under the most testing of applications.

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SPECIFICATION

Inputs (Px): 11 x 0.040" / 0.063" tube

Pressure Ranges: ±2,000PaD
±6,000PaD
±10,000PaD
Barometric 400 – 1100hPaA

Pressure Accuracy: (TEB)* ±0.2%FS @ 2kPa
±0.2%FS @ 6kPa
±0.1%FS @ 10kPa

Overpressure Capability: 5x calibrated range

Pressure Resolution: up to 0.06Pa depending on DP range, 1Pa on Barometric Reference

A/D Resolution: 24 Bit

Compensated

Temperature Range: -40°C to +100°C

Scanning Frequency: 0 to 2kHz

Construction materials:

Wetted parts: Stainless Steel / Aluminium / Nitrile

Outer case: Aluminium / Carbon Fibre

Media: Air - Avoid liquid and solid contaminants

*includes the effects of non-linearity, repeatability and hysteresis

Environmental Conditions:

Op. Temperature: -40°C to +100°C

Vibration: Compliant with DO160E Cat S
Approval Pending

Communication Interface:

Digital / Daisychain

Protocol: IENA / UDP

Data Synchronisation: IEEE1588 PTPv2

Power Supply: 24-60v DC

Power Consumption: <1.5W

Electrical Connector: Deutsch, AS-X connector (602 series)

Mechanical Connection Direct to cradle / rake mount

Weight: <90g

Dimensions: 60.5mm x 47mm x 10.5mm
excluding mounting lugs & electrical connectors

Dimensions

