CURTISS WRIGHT Controls
Avionics & Electronics

# A3F
# Pressure measurement conditioning and acquisition

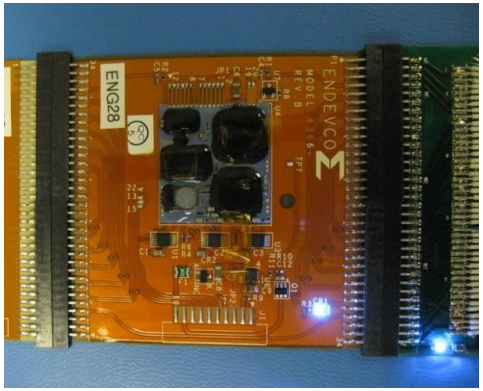
David Madec – March 2014



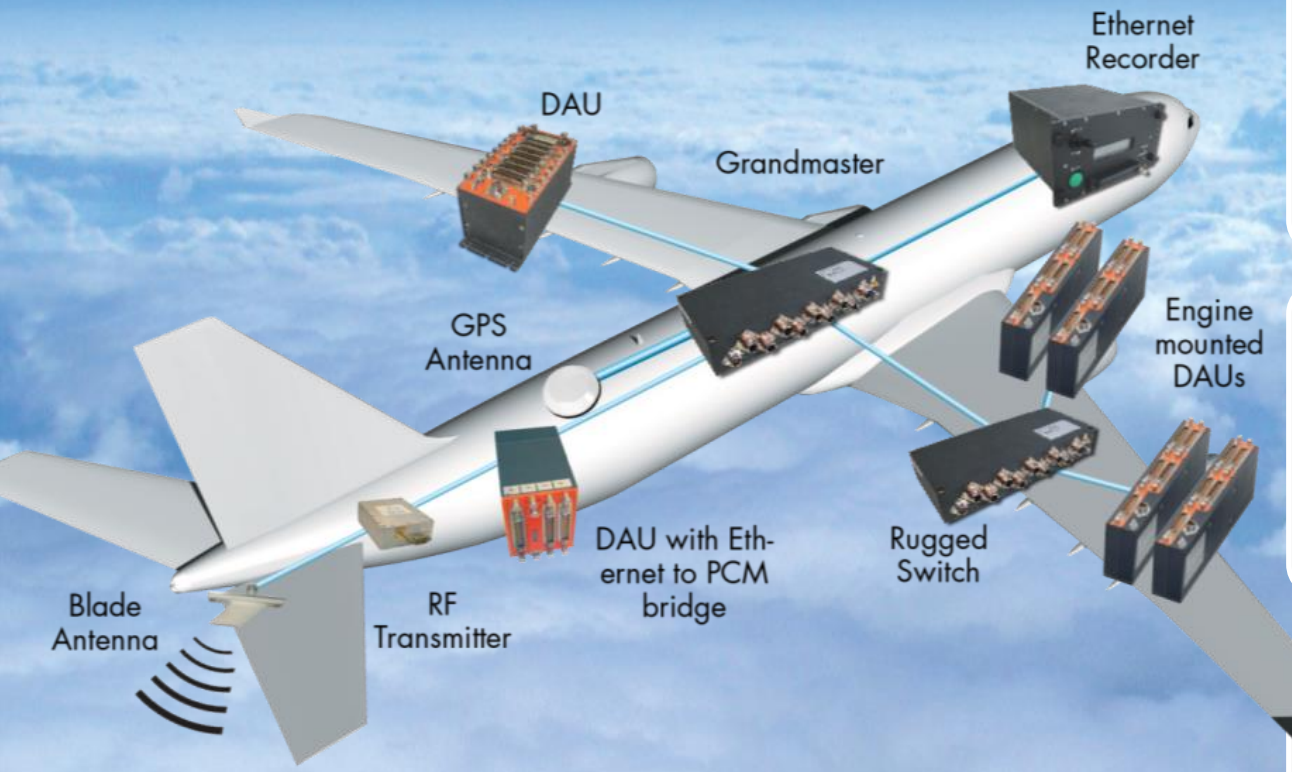

# Agenda

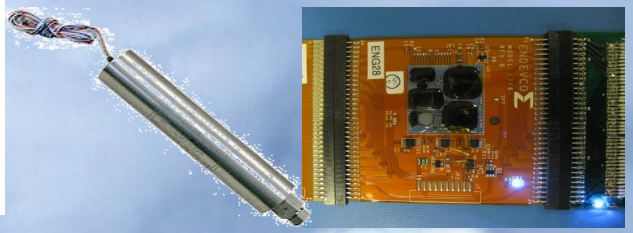
- **System integration**
  - Network system

- **Specific measurement sensing**
  - Pressure sensors without conditioning
  - Pressure scanners
  - Digiquartz® pressure sensor
  - Meggitt Pressure belt  - Flexible Air Sensing Technology (FAST)



# System integration



## Data Acquisition Systems

Rugged data acquisition units with a range of COTS plug-in modules

## FTI Recorders

Stand-alone recorders with optional integrated data acquisition

## Rugged Switches

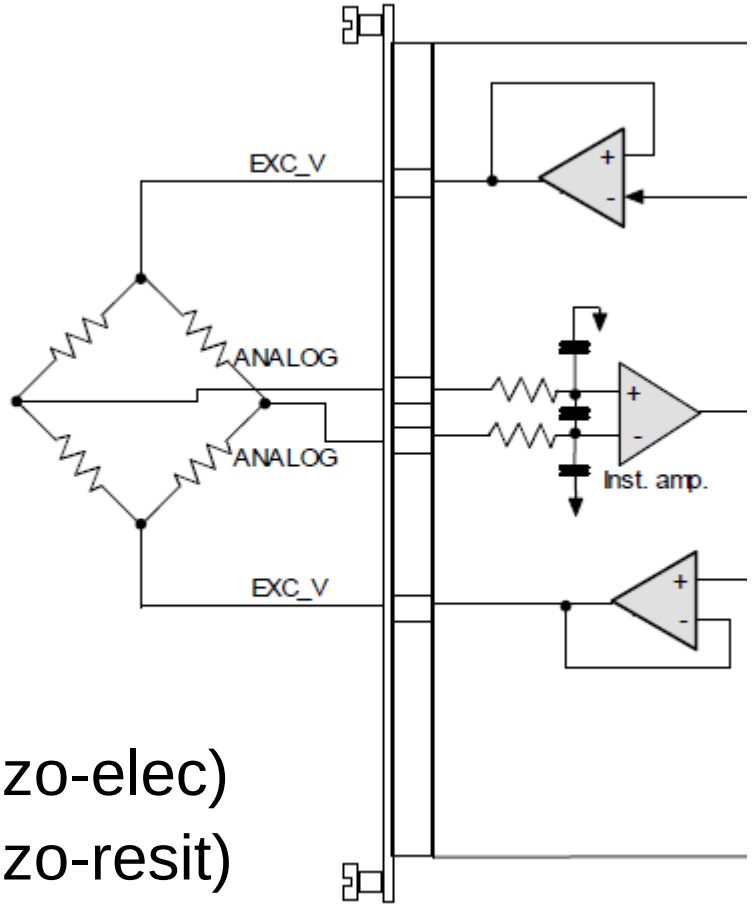
Highly rugged, live at power-up IEEE 1588 PTP Ethernet switches

**Pressure sensing**

INNOVATION DELIVERED

# Discrete pressure sensing

- **Bridge sensing**
  - Simple, reliable
  - Wide range of applications
  - Suited to measure absolute, vacuum or differential pressures
  - Balance adjust for “zero-ing”
  - Need holes to install

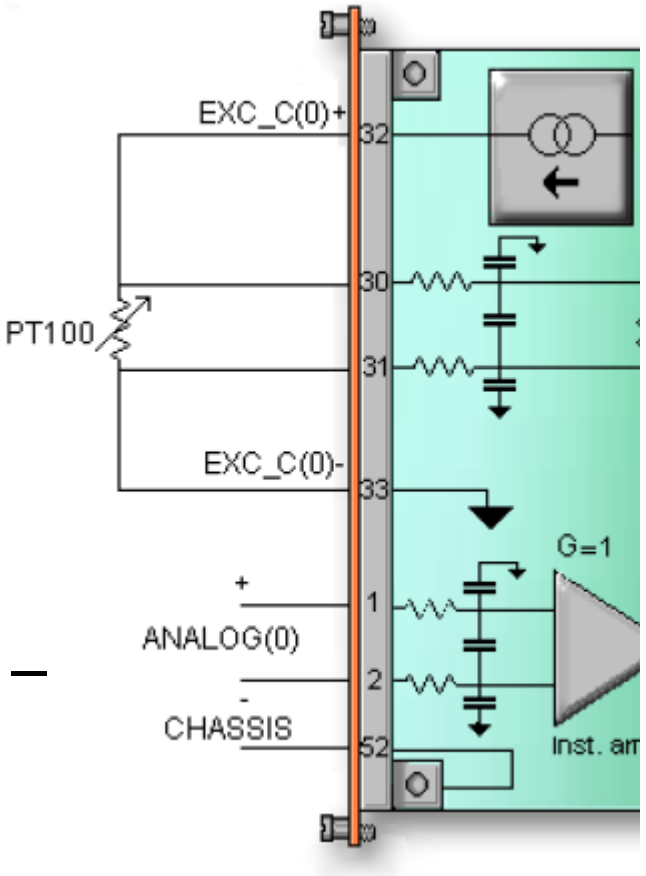



- **Curtiss-Wright Solution**
  - KAD/ADC/114 – 16 Ch
  - KAD/ADC/120 – 12 Ch
  - KAD/ADC/126 – 4 Ch @ 100ksps (piezo-elec)
  - KAD/ADC/129 – 4 Ch @ 100ksps (piezo-resit)

# Pressure “Glove” measurement

- **Flat pressure sensing**
  - Small form factor
  - Temperature compensation PT100

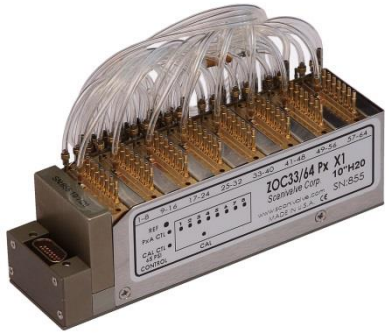
  - No need for holes to install

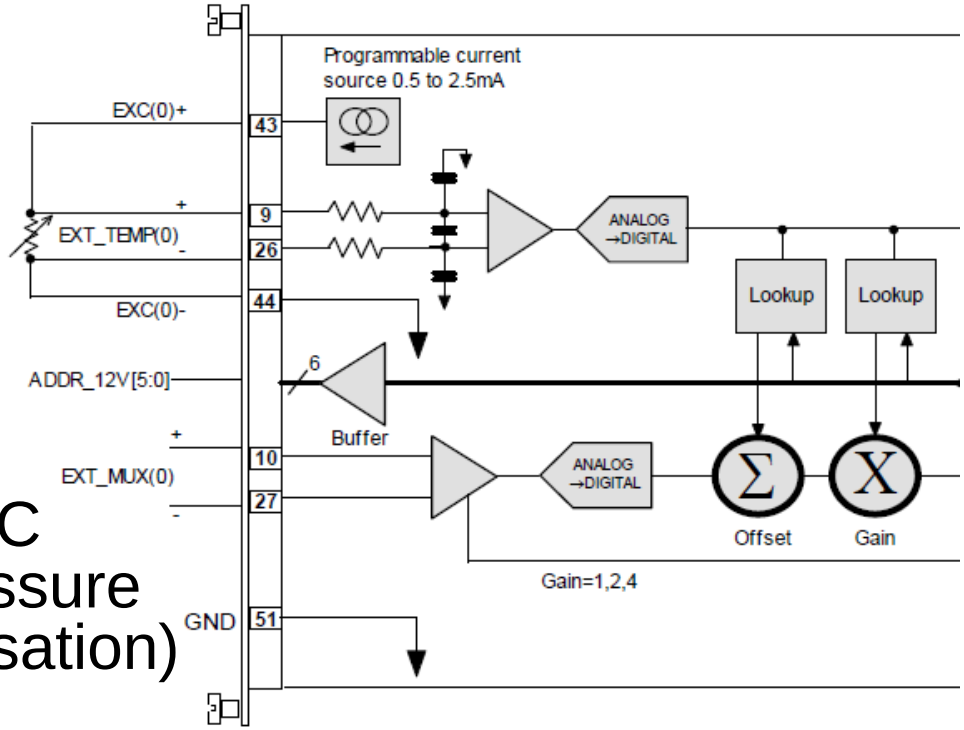



- **Curtiss-Wright Solution**
  - KAD/PDC/001 – Pressure acquisition module with temperature compensation – 14 Ch and 2 Ch PT100

# Pressure scanner – Scanivalve (ZOC series)

- **Pressure scanner**
  - High density
  - Small profile
  - Static pressure mapping
  - Look up table calibration per channel and per temperature range
  - Need holes to install

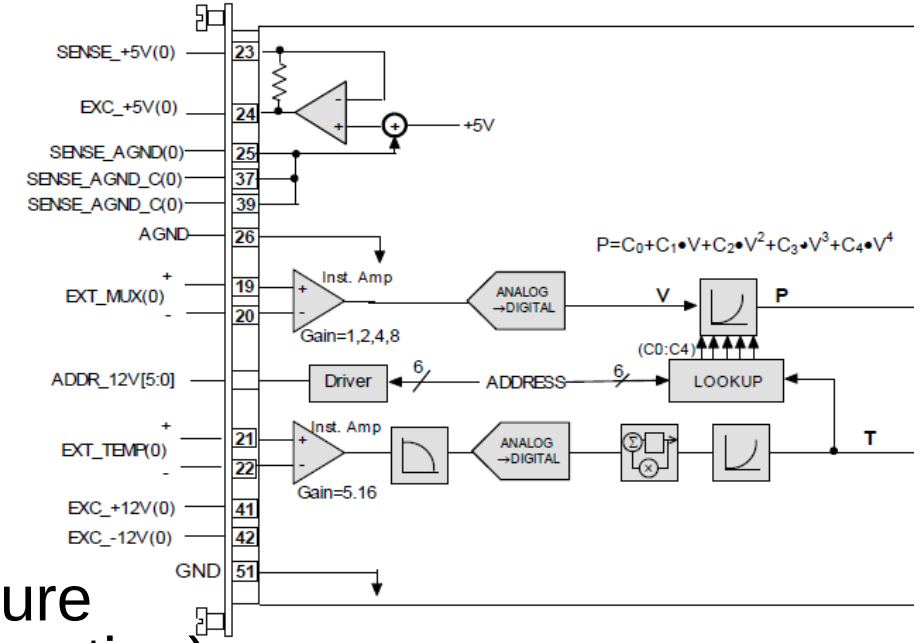





- **Curtiss-Wright Solution**
  - KAD/MDC/002 - Multiplexing ADC (programmable analog gain, pressure scanner, external temp. compensation) - 2ch

# Pressure scanner – Pressure systems (ESP series)

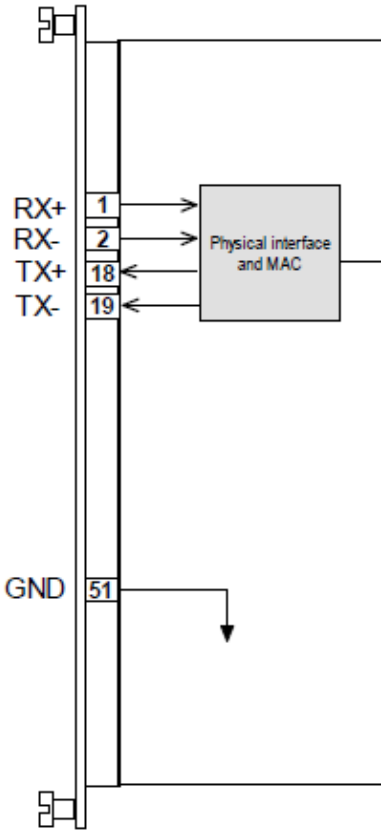
- **Pressure scanner**
  - High density
  - Small profile
  - Static pressure mapping
  - Polynomial calibration per channel per temperature range
  - Need holes to install




- **Curtiss-Wright solution**
  - KAD/MDC/103 - Multiplexing ADC (programmable analog gain, pressure scanner, polynomial temp. compensation) - 2ch

# Pressure scanner with conditioning

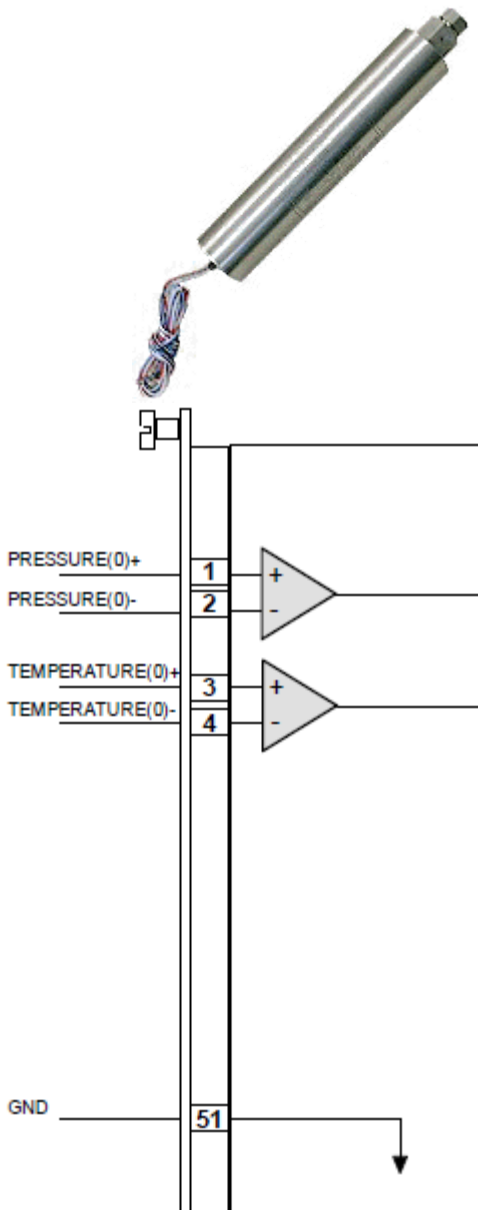
- **Pressure scanner**
  - Embedded conditioning
  - Ethernet output
  - Static pressure mapping
  - Polynomial calibration per channel per temperature range
  - Need holes to install




- **Curtiss-Wright solution**
  - KAD/ETH/101 – Ethernet bus monitor

# Digiquartz ® pressure sensor

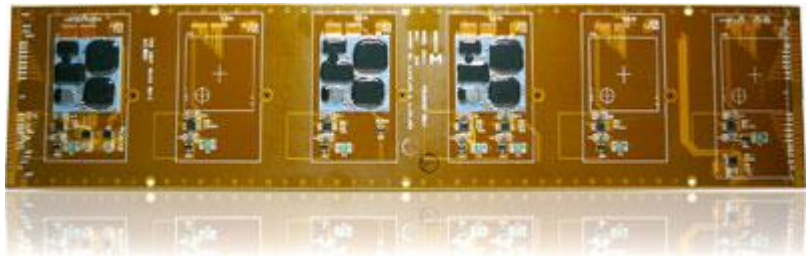
- **Pressure sensor**
  - High precision
  - Low power consumption
  - Long-term stability
  - Need holes to install



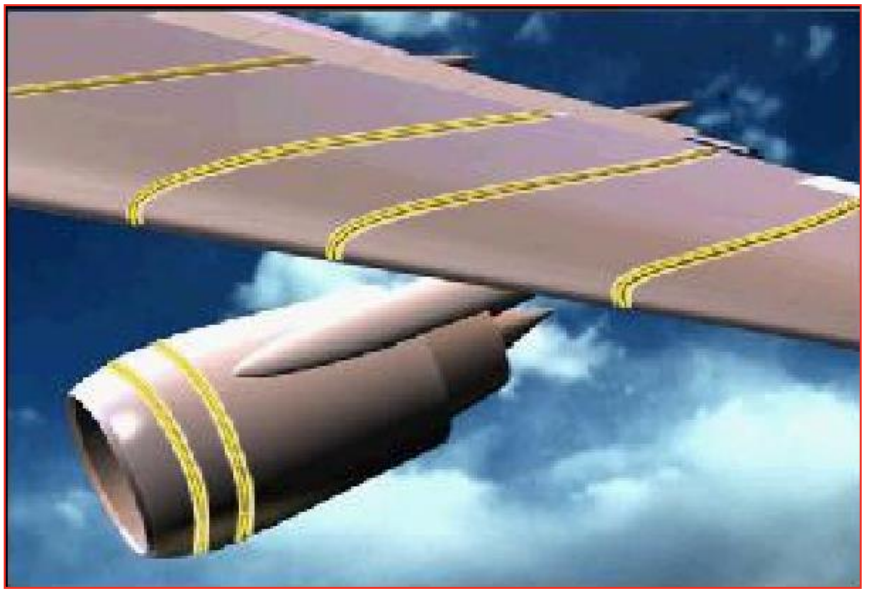

- **Curtiss-Wright solution**
  - KAD/DSI/105 – Digiquartz® input module - 4ch

# Pressure Belt

- **Flexible Air Sensing Technology**
  - Airflow measurement
  - Low power consumption
  - Fast installation
  - Networked sensors reduces cable weight



  - No need for holes to install



- **Curtiss-Wright solution**
  - KAD/DPI/101 – FAST pressure acquisition module

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# Thank You

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