



# FLEX

Manufactured by Mid-Continent Instruments and Avionics

**MidContinent**<sup>®</sup>  
INSTRUMENTS+AVIONICS

FLEX<sup>®</sup> IS THE ONLY CERTIFIED ALL-IN-ONE CONTROLLER AND DATA CONVERTER WITH GLASS DISPLAY FUNCTIONALITY.

The Flex<sup>®</sup> MD23 Series is a blank slate for designers, avionics and systems engineers. Its base hardware and software are already TSO certified and RTCA qualified to Design Assurance Level A. This means you'll go from concept to cockpit in half the time and at half the cost of traditional custom software development.



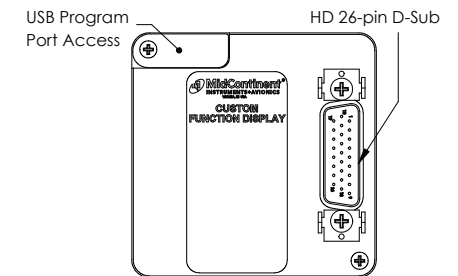
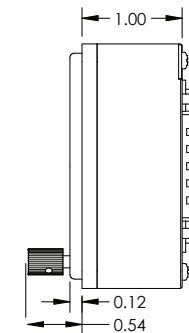
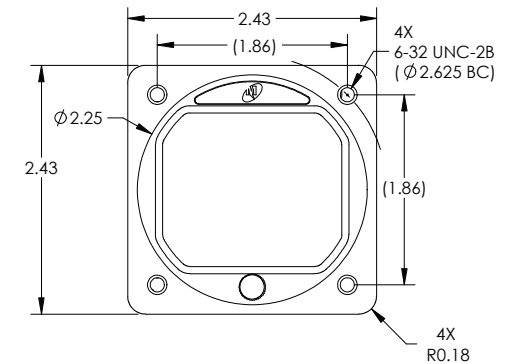
Optional cover plate for behind-the-panel installations

## Develop a custom behind-the-panel interface or a fast and easy replacement for legacy displays beyond economical repair

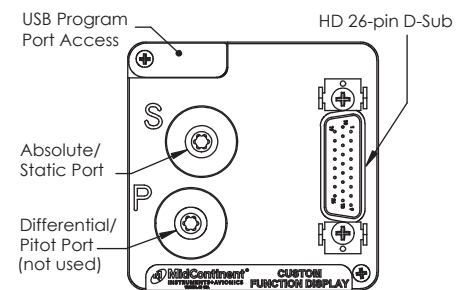
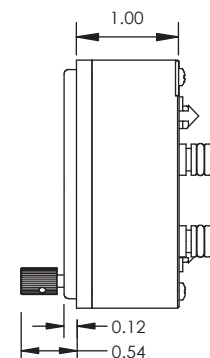
- 18 programmable inputs and outputs, 2 pressure ports and internal sensors, customizable user interface and graphics
- Receives and displays ARINC 429, analog, discrete, frequency, temperature, absolute and differential pressure data
- Optional cover plate for behind-the-panel installations
- Rechargeable, field-replaceable emergency battery available
- Field-upgradeable software and configuration via standard USB-A port
- Glass display functionality
  - Simple user interface with single, push-and-turn control knob
  - Daylight readable LCD display with smooth, high-resolution graphics
  - Manual, external lighting control or built-in photocell for automatic dimming
  - Night Vision Imaging Systems (NVIS) compatible units available
  - Fits standard 2-inch panel cutout with easy installation
- TSO certified, RTCA DO-160G and RTCA DO-178C qualified (Design Assurance Level A)
- Designed and built in Wichita, Kansas, USA
- Two-year limited warranty

## SPECIFICATIONS

Power Input	10–32 VDC 0.14A @ 28 VDC; 4 watts nominal	
Data Input	ARINC 429	Low or high speed; labels per individual CID
	RS-232	Data format per individual CID
	RS-422/485	Data format per individual CID (-3 only)
	Analog*	0-28 VDC, 1% accuracy ( $\pm 0.050$ V) (-1 and -2) -24-29 VDC, 1% accuracy ( $\pm 0.050$ V) (-3 only)
	Discrete*	Open, ground, high
	Thermocouple	Type K (-1 and -2)
	Frequency*	0.5-100 V pk-pk; 10-20,000 Hz (-1 only)
	Pressure	Absolute/static and differential/pitot (-2 only)
	*Up to 12 programmable Analog, Discrete or 3 Frequency inputs available	
Data Output	ARINC 429	Low or high speed; labels per individual CID
	RS-232	Data format per individual CID
	RS-422/485	Data format per individual CID (-3 only)
	Analog*	0-5 VDC, 1% accuracy ( $\pm 0.050$ V) (-1 and -2) -8-8 VDC, 1% accuracy ( $\pm 0.050$ V) (-3 only)
	Discrete*	Open, ground, high
	*Up to 12 programmable Analog or Discrete outputs available	
Lighting	5, 14, or 28 VDC external control or internal photocell for automatic dimming	
Battery	Rechargeable coin cell (clock memory only) Rechargeable, field-replaceable emergency battery power supply (available) P/N 6430006-(1) Technology Nickel Metal Hydride (NiMH) Attributes 0.25A @ 24 VDC nominal (6 Wh capacity) Run time 60 minutes @ 0.25A	
Weight	0.4 lbs (0.17 kg)	
Mounting Options	Rear panel mounted, (4) #6–32 screws, 2.25-inch round bezel Behind-the-panel mount	
Dimensions	2.43" x 2.43" x 1.0"	
Panel Cutout	Fits standard 2" cutout	
Mating Connector	P/N 9019162-1	26-pin, D-Sub electrical connector (Quick Disconnect)
	P/N 9019162-2	Pneumatic fittings (Quick Disconnect)
Certification	FAA TSO certified to C2d (Type B), C3e, C4c, C8e, C10c, C106, C113b, C201 RTCA DO-160G qualified RTCA DO-178C qualified, Design Assurance Level (DAL) A	
Rights	U.S. Patent 11,048,389	



6420023-1 and 6420023-3 Configurations



6420023-2 Configuration