M8KADDA

The M8KADDA is a multichannel digital-to-analog and analog-to-digital interface module for Excalibur's 8000 family of multiprotocol carrier boards. It provides a complete solution for high performance data acquisition avionics applications. The M8KADDA module supports up to 10 single ended, or 5 differential, digital-to-analog (DAC) output channels, as well as 5 single ended or 5 differential analog-to-digital (ADC) input channels.

Each DAC channel has a 16-bit resolution and can sink or source up to 25mA. User selectable voltage ranges are available that provide either full scale bipolar or full scale unipolar output voltages for each channel. The voltage of each channel can be set individually.

Each ADC channel has a wide range of either full scale bipolar or unipolar input voltages that can be measured. Automatic input scanning is supported with good noise elimination.

General Features
- 10 DAC channels
- 5 ADC channels
- Differential or single ended IOs
- Full scale bipolar or unipolar signaling
- 64K Dual-port RAM
- 48-bit 1 µsec Time Tag or 64-bit IRIG B Time Tag
- IRIG B input (standard IRIG B120 Serial Time Code)
- Ruggedized and extended temperature options

Digital-to-Analog Channel Outputs
- Monotonic, 16-bit resolution
- Multiple voltage ranges:
  - ±2.5V, ±5V, ±10V, ±20V (optional)
  - 0 to 5V, 0 to 10V, 0 to 20V (optional)
- High drive capability: ±25 mA
- Signal Generator Feature

Analog-to-Digital Channel Inputs
- Wide range of input voltages:
  - ±0.625V, ±1.25V, ±2.5V, ±5V
  - 0 to 1.25V, 0 to 2.5V, 0 to 5V , 0 to 10V
- Customizable voltage ranges available

Physical Characteristics
- Dimensions: 46mm x 30mm
- Weight: 12g

Operating Environment
- Temperature: 0°–70°C standard temperature
  -40° to +85°C extended temperature (optional)
- Humidity: 5%–90% noncondensing
- MTBF: 368,900 hours at 25°C, G_F, S217F

Host Interface
- EXC-8000 family of carrier boards
- Power: 5V @ 300mA
  Add 25mA (max. for each active DAC output channel)
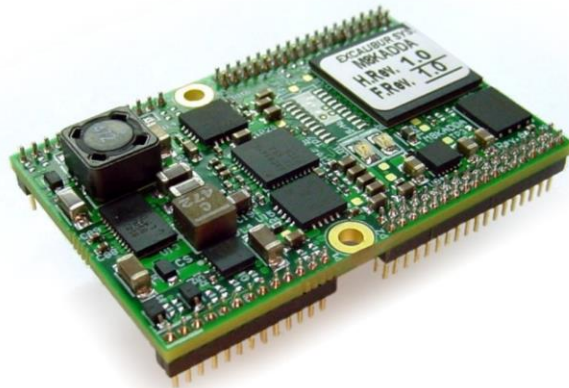
Software Support
- *ADDA Software Tools*: Intuitive and flexible API with source code
- Compatible with 32/64-bit Windows 7/8/10/11 & Linux kernel 3.x/4.x/5.x

Ordering Information
- **M8KADDA-P*x*** Digital-to-analog and analog-to-digital interface module

  Replace 'P*x*' with one of the following presets:

  P1 DAC outputs only (10 Single Ended or 5 Differential)

  P2 ADC inputs only (5 Single Ended or 5 Differential)

  P3 Combined DAC and ADC (4 Single Ended or 2 Differential DAC outputs and 3 Single Ended or 3 Differential ADC inputs)

- **Additional Options:**
  -E Extended temperature option
  -R Ruggedized option
  -001 With conformal coating

Note: When ordering this module with a carrier board, use the module code specified in the user's manual of the carrier board.

These specifications are subject to change without notification

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