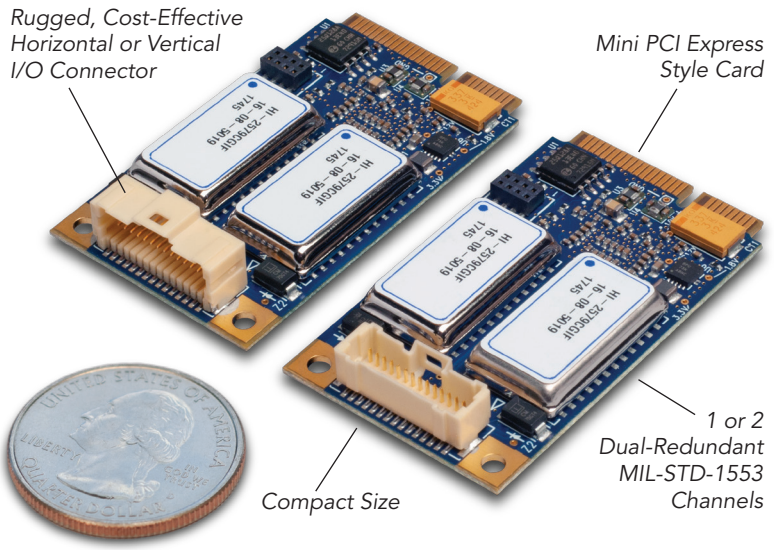
ME1000

mPCIe Avionics Interface Cards for MIL-STD-1553

The ME1000 family of Mini PCI Express® (mPCIe) cards enable space-constrained embedded systems to interface with MIL-STD-1553 avionics databuses. These rugged cards provide the capability to reliably communicate with and monitor avionics equipment and systems. These feature-rich cards include 1 or 2 dual-redundant MIL-STD-1553 channels, along with avionics discrete I/O and IRIG signals. RS-422/485 Serial is optionally available.



High Reliability

ME1000 interface cards use Ballard's time-tested 5th generation avionics protocol engines, a large 32 MB built-in memory, and high-performance bus mastering capability. All models include 8 avionics level input/output discretes (6 inputs/2 outputs), differential discretes (1 input/1 output), and IRIG time synchronization/generation. Extended temperature range is standard and conformal coating is an option.

Flexible Connection

The miniature size of the card allows installation in the smallest of locations, and the choice of horizontal or vertical I/O connector ensures you can make the most of the limited space available. In addition, the connector type offers a cost-effective solution (inclusive of the mating connectors), keeping your system costs low.

Robust Software Capabilities

Users can develop their own software applications with the included BTIDriver™ API. With only a few function calls, a program can operate the interface card and process messages to and from the avionics databuses. Functions include routines for transmitting, receiving, scheduling, recording, time-tagging, and manipulating data. The interface card can use applications developed for other Ballard devices; code migrates seamlessly from BTIDriver compatible devices.

KEY FEATURES

- 1 or 2 dual-redundant MIL-STD-1553 channels
- Rugged extended-temperature design
- Single- or Multi-function MIL-STD-1553 models
- IRIG A/B PWM and AM
- Avionics Discrete I/O 6 inputs and 2 outputs
- Differential Discrete I/O
- RS-422/485 Serial
- Easy-to-use software interface
- RoHS compliant
- Optional conformal coating

Avionics Interfaces

MIL-STD-1553

Up to 2 dual-redundant channels
BC/RT/MON (Single- or Multi-Function)
Hardware controlled transmit scheduling
CH/TA/SA filtering
Sequential monitor

RS-422/485 Serial

1 port
Selectable baud rates

Differential Discrete I/O

1 input and 1 output
For serial models: users can select serial **or** DIO operation (both cannot be used concurrently)

Avionics Discrete I/O

6 Inputs/2 Outputs
Input: Open/GND
Output: Open/GND, 200 mA (max)
Log transitions to sequential record

Specifications

Standard Features

- 1 or 2 MIL-STD-1553 channels
- 8 Avionics Discrete I/O (6 in/2 out)
- 2 Differential Discrete I/O (1 in/1 out)
- IRIG A/B input and output
- 32 MB on-board memory

Time-Tag/IRIG

48-bit hardware time-tag (1µs resolution)
IRIG A or B, AM (input), PWM, and PPS
- Generate or synchronize
- Synchronize hardware time-tags

PCIe Bus

PCIe x1 Link
Power: +3.3 VDC

Connector

Default horizontal connector
- Molex 501571-3007

Optional vertical connector
- Molex 501190-3027

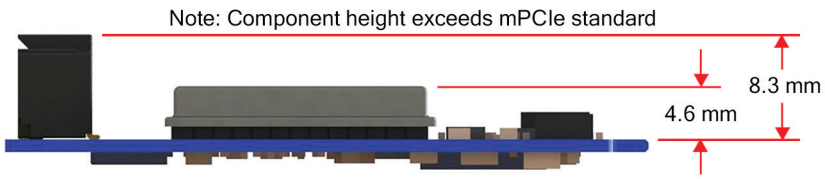
Mating connector for both types (user supplied)
- Molex 501189-3010 (housing)
- Molex 501193-3000 (terminals)

Environmental

Component temperature: -40 to 85°C
Storage temperature: -55 to 100°C

Mechanical

Weight: 13.5 g
Dimensions: 51 x 30 mm



Side View

Software

Universal BTIDriver API for C/C++, C#, VB, and VB.Net
MS Windows® and Linux® OS drivers
Call for latest language and OS support

Ordering Information

MIL-STD-1553 Only

Number of Channels	Single Function	Multi Function
1	ME1100*	ME1200*
2	ME1300*	ME1400*

MIL-STD-1553 and Serial

Number of Channels	Single Function	Multi Function
1	ME1102*	ME1202*
2	ME1302*	ME1402*

*Horizontal I/O connector is standard

Options

To order, add the appropriate suffix to the above part number.

Example: ME1402/FXY

/V	Vertical I/O connector
/FXY	Conformal coating (Parylene)

CONTACT INFO

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