KIMDU
T E C H N O L O G I E S

General Description

GPCU

The Kimdu Technologies' General Purpose Converter Unit (GPCU) is a flight-qualified, COTS piece of equipment that contains ARINC-429 channels, RS-232/422 channels, an optional Dual-Redundant Mil-Std-1553B interface, 10/100 Ethernet, USB, and a CAN or AeroCAN interface, A/D inputs, Discrete I/O and audio multi-tone generator. It can be used to translate between the different protocols when supplied with system-specific firmware. The protocol conversions are performed by the embedded ARM processor. The ARINC-429 interface includes a number of options including: Data Rate (12.5Kbps/100Kbps) and Parity (Normal/Disabled) on a per channel basis. There are up to four serial ports which can operate a various baud rates.


Firmware Uploading Operation
The GPCU has a dedicated serial port for firmware updates. Firmware upload is easily accomplished in the field by using the supplied "Loader" software utility along with a PC with a serial port or RS-232/USB adapter. A serial HEX file can be supplied that can be uploaded to the GPCU at the customer's site.

Customization
The GPCU contains an internal mezzanine card socket that allows for the addition of custom interfaces. Contact the sales group at Kimdu Technologies for details.
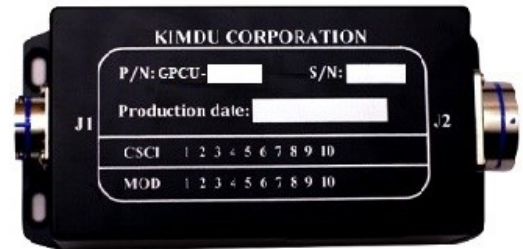
FEATURES:

♦ **COTS**

♦ **Protocol Conversion between multiple interfaces**

♦ **Ruggedized, Qualified Unit**

♦ **MIL-38999 Connectors**

♦ **Mil-Std-704 28vDC**

♦ **Mil-Std-461**
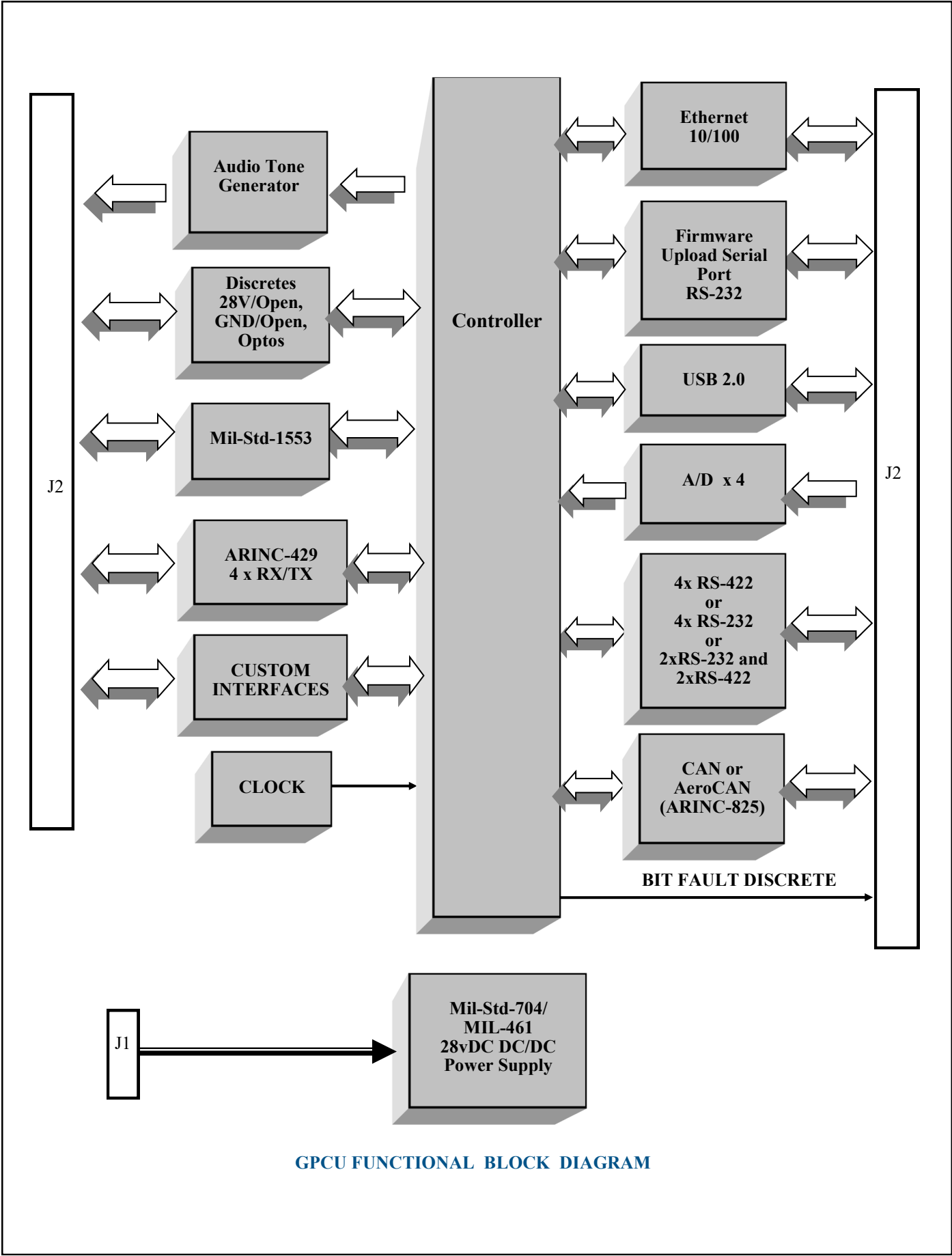
♦ **Mil-Std-810**
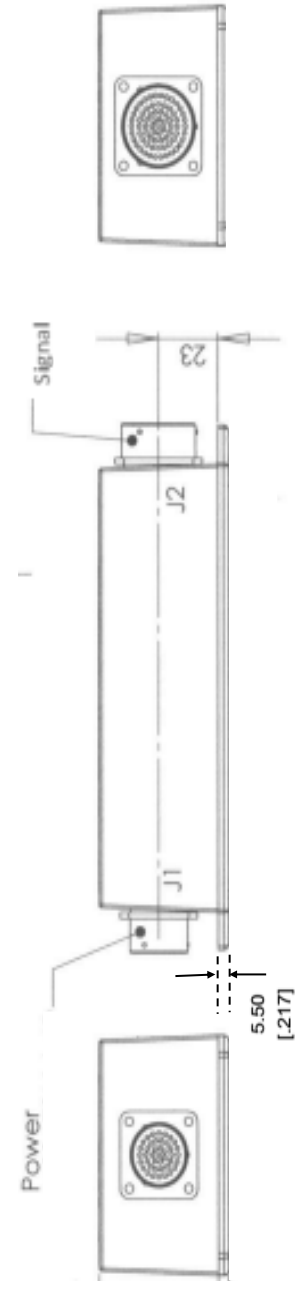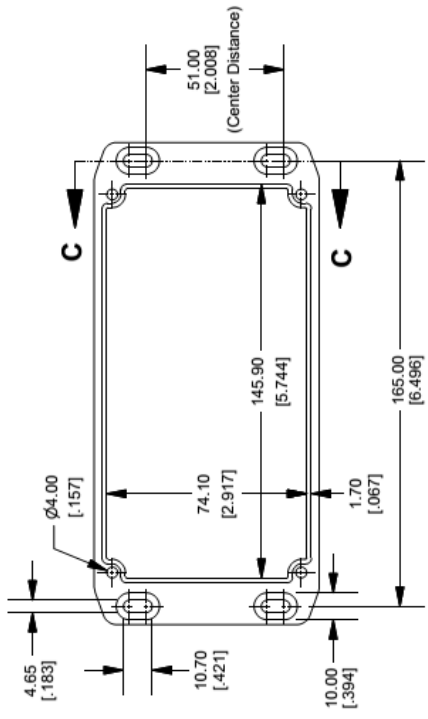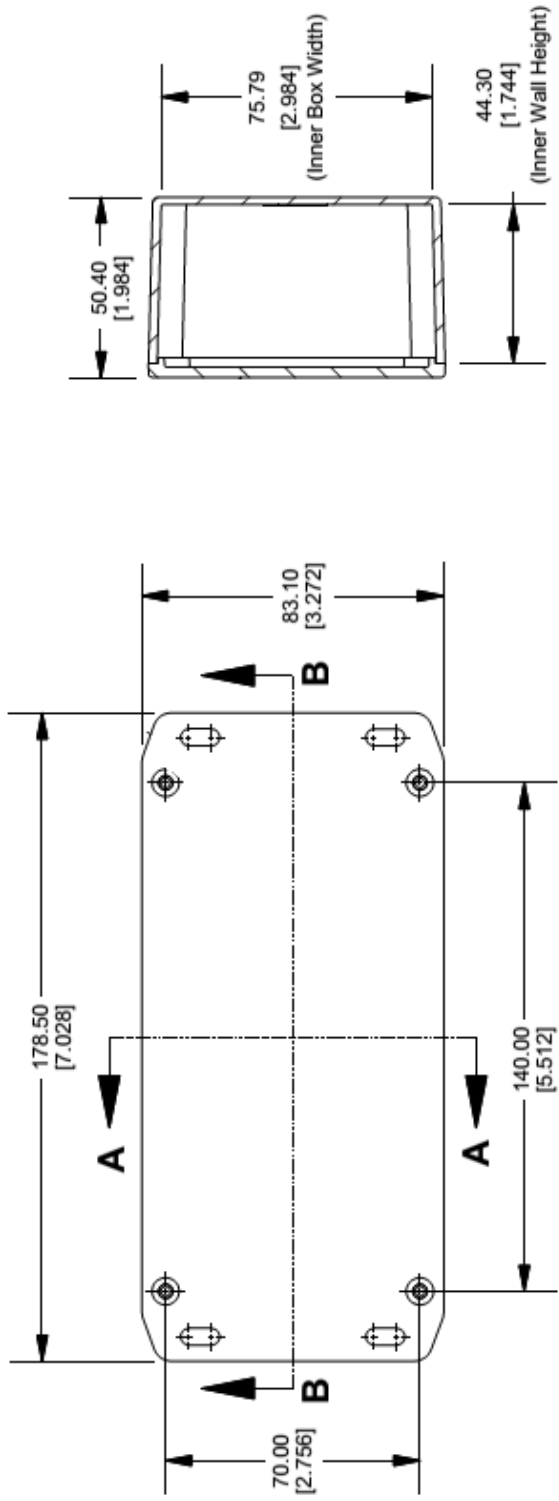
QUALITY
SUPPORT

AS9100:2016
ISO 9001:2015
CERTIFIED

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Audio Tone Generator

Discretes 28V/Open, GND/Open, Optos

Mil-Std-1553

ARINC-429 4 x RX/TX

CUSTOM INTERFACES

CLOCK

Controller

Ethernet 10/100

Firmware Upload Serial Port RS-232

USB 2.0

A/D x 4

4x RS-422 or 4x RS-232 or 2xRS-232 and 2xRS-422

CAN or AeroCAN (ARINC-825)

BIT FAULT DISCRETE

J2

J2

J1

Mil-Std-704/ MIL-461 28vDC DC/DC Power Supply

GPCU FUNCTIONAL BLOCK DIAGRAM

KIMDU TECHNOLOGIES

Generic Protocol Converter Unit
GPCU

DWG160210-1

Dimensions:

- 75.79 [2.984] (Inner Box Width)
- 44.30 [1.744] (Inner Wall Height)
- 50.40 [1.984]
- 83.10 [3.272]
- 178.50 [7.028]
- 140.00 [5.512]
- 70.00 [2.756]
- 51.00 [2.008] (Center Distance)
- 145.90 [5.744]
- 165.00 [6.496]
- Ø4.00 [.157]
- 74.10 [2.917]
- 1.70 [.067]
- 4.65 [.183]
- 10.70 [.421]
- 10.00 [.394]
- 5.50 [.217]

Signal

J2

J3

J1

Power

Ordering Information

Ordering Information

GPCU- X -X- X- X -X -X -XXXX
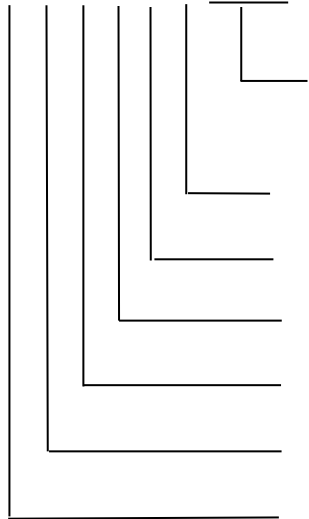
4-Digit Customer Customization Code issued by Kimdu Technologies
For Configuration control. Defines and controls Serial Type (422/232), Analog Inputs, Discrete types, Custom interfaces, additional customer definitions.

Audio Output: (=1) or No (=0)

Discretes: (=1) or No (=0)

Mil-Std-1553: (=1) or No 1553 (=0)

CAN: (=1) or No CAN (=0)

Ethernet (=1) or No Ethernet (=0)

ARINC-429 Options: (Note: Each channel is a TX/RX Pair)
0= No ARINC
1= 1 Channel
2= 2 Channels
3= 3 Channels
4= 4 Channels