



BBG-3000E USB Universal Conversion Engine

Description



The BBG-3000 USB Universal Conversion Engine is a stand-alone module, which provides data format conversion of analog, synchro, and resolver signals to a USB connection.

These bulkhead mount enclosures are factory configurable to customer requirements for easy field installation.

An onboard microcontroller controls the processing of these signals to provide conversions to user requested outputs.

Applications

- Radar Systems (antenna azimuth)
- Navigation Systems (gyrocompass, speedlog, course, pitch, and roll)
- Industrial Processes (position, velocity)
- Meteorology Instruments (wind speed and direction)
- Many Others

Features

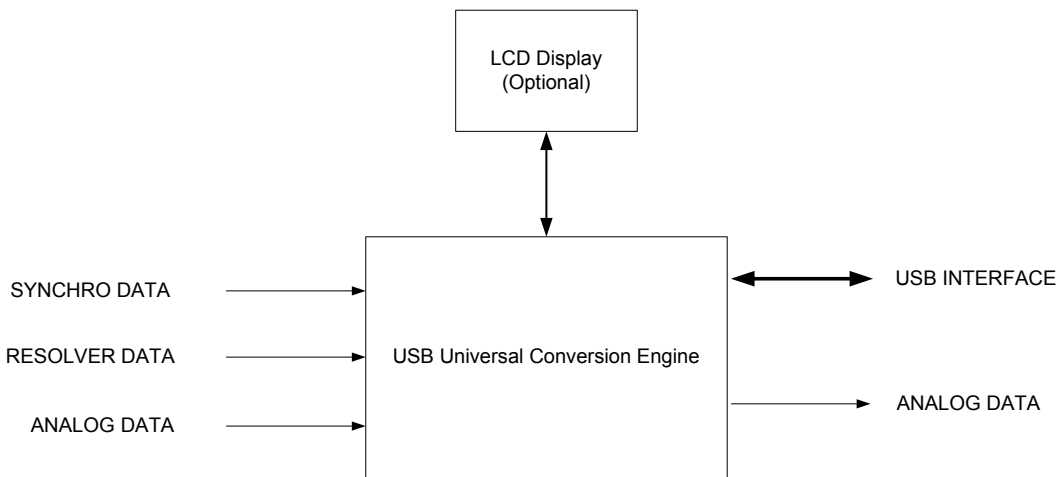
- Bulkhead Mount Composite Enclosure
- Analog I/O 0/+10, -5/+5, -10/+10 Vdc
- 90V, 11.8V Synchro, 6.8V Resolver
- USB Interface with Mini USB connector
- Optional LCD Display with Backlight

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Chart



During power up or reset, an onboard microcontroller configures the interfaces and provides all signals and control necessary to read the desired interface, process and display the data, and output the converted data.

Technical Specifications

Parameter	Value	Units
Power Supply	24	Volts DC
	1	Amp
Temperature Range		
	Operating	0 to +50
Storage	-65 to +150	C°
Input/Output		
Synchro	90 and 11.8	Volts
	0-2000	Hertz
Resolver	6.8	Volts
	0-2000	Hertz
Accuracy	+/-4	arc minutes
Analog	0/+5, -5/+5, -10/+10	Volts
USB	Slow Speed	V2.0 Compliant
Dimensions	8.0 x 6.12 x 4.13	In
	20.32 x 15.55 x 10.49	Cm



OVERVIEW

The USB Universal Conversion Engine (UUCE) is a stand alone module which interfaces synchro, resolver and analog data to the Universal Serial Bus (USB). An onboard microcontroller controls the processing of these signals to provide conversion of user requested inputs and outputs. An optional LCD display enables display of raw or converted data.

During power up or reset, an onboard microcontroller configures the interfaces and provides all signals and control necessary to read the desired interface, process and display the data, and output the converted data. Examples of uses include: radar systems (antenna azimuth), navigation systems (gyrocompass, speedlog, course, pitch, and roll), industrial processes (position, velocity), and meteorology instruments (wind speed and direction).

INPUTS/OUTPUTS

Inputs and outputs are available on terminal blocks provided with the UUCE. A 16 pin header provides interfacing to an LCD display using standard cables. Inputs and outputs are listed below:

Synchro/Resolver Interfaces

Synchro/Resolver Inputs:

Inputs are jumper selectable for synchro or resolver signals and can be configured for any desired voltage by a simple chip/resistor replacement. Synchro or resolver inputs are transient protected. Standard voltages include 90Vrms, 26 Vrms, and 11.8Vrms synchro inputs and 6.8 Vrms resolver inputs over the frequency range of DC to 40kHz. Custom voltages are available upon request. Please specify desired voltage when ordering UUCE.

Analog Interfaces

Analog Inputs:

Analog inputs are factory configured for DC input voltage ranges of 0/+10, -5/+5, 0/+10 volts DC. Please specify desired voltage when ordering UUCE.

Analog Outputs:

Analog outputs are factory configured for DC output voltage ranges of 0/+10, -5/+5, 0/+10 volts DC. Please specify desired voltage when ordering UUCE.

USB Interface

The UUCE contains a USB Serial Interface Engine that is compliant with the USB Specification Revision 2.0. The UUSB supports low-speed communications via a micro USB connector located on the UUSB.

CONNECTOR LIST FOR UUCE

I/O CONNECTOR TYPE: Terminal Blocks

CONNECTOR MATE: Striped Wire

TB1 – Power Input

TERMINAL BLOCK	TERMINAL	SIGNAL
TB1	1	+24V DC RTN
	2	No Connection
	3	24 VDC (INPUT)

PC-2882 TB2 – Channel 1 Analog Input/Output

TERMINAL BLOCK	TERMINAL	SIGNAL
TB2	1	CHANNEL 1 ANALOG OUTPUT
	2	CHANNEL 1 RETURN
	3	CHANNEL 1 ANALOG INPUT

PC-2882 TB3 – Channel 2 Analog Input/Output

TERMINAL BLOCK	TERMINAL	SIGNAL
TB3	1	CHANNEL 2 ANALOG OUTPUT
	2	CHANNEL 2 RETURN
	3	CHANNEL 2 ANALOG INPUT

TB4 – Channel 1 Synchro Input

TERMINAL BLOCK	TERMINAL	SIGNAL
TB4	1	CHANNEL 1 R1 (INPUT)
	2	CHANNEL 1 R2 (INPUT)
	3	CHANNEL 1 S1 (INPUT)
	4	CHANNEL 1 S2 (INPUT)
	5	CHANNEL 1 S3 (INPUT)

TB5 – Channel 2 Synchro Input

TERMINAL BLOCK	TERMINAL	SIGNAL
TB5	1	CHANNEL 2 R1 (INPUT)
	2	CHANNEL 2 R2 (INPUT)
	3	CHANNEL 2 S1 (INPUT)
	4	CHANNEL 2 S2 (INPUT)
	5	CHANNEL 2 S3 (INPUT)