

Liberty


**Specifications**

# LIBERTY CAN/DI AMPLIFIER

## CAN/bus Digital Input Card

### CANbus Acquisition

<b>Number of Nodes</b>	2
<b>Number of Channels</b>	32 channels per node
<b>Resolution</b>	64 bits
<b>Input Connector</b>	Two female 9 pin "D" connectors, one for each node
<b>Sample Rate</b>	0.01 S/s - 5 kS/s selected per node
<b>System Aggregate</b>	See mainframe datasheet
<b>Isolation</b>	CAT I 100 V
<b>Overload Protection</b>	-16 V/+32 V High speed -27 V/+40 V (Fault tolerant) -15 V/+15 V (Single wire)

### CANbus

<b>Protocol</b>	CAN 2.0B
<b>Physical Layers</b>	High-speed (ISO 11898-2), Fault tolerant (ISO 11898-3), Single wire (J2411)
<b>Data Bit Rates</b>	33.3, 83.3, 100, 125, 250, 500 kbit/s, 1 Mbit/s
<b>Listen Only Mode</b>	Hardware controlled
<b>Synchronization</b>	Samples synchronized with other Liberty amps
<b>CAN configuration</b>	VectorDB file or user configuration

### GPS Option

One CAN node is dedicated to an external GPS sensor that is powered by Liberty.

## CAN Channel Triggering

Each channel has individual dual-level trigger detection; selectable hysteresis, modes and qualifiers.

<b>Pre- and Post-trigger Trigger Rate</b>	0 to full memory length Up to 1 trigger per second per channel up to 32 bit for each input
<b>Resolution</b>	

## Digital Inputs

<b>Number of Channels</b>	32 in 2 groups of 16
<b>Input Connector</b>	Female 44 pin "D" connector
<b>Input Range</b>	TTL compatible, Maximum Input 32 V
<b>Input Threshold Levels</b>	2 V, 2.5 V, 3 V, 3.5 V, 4 V, 4.5 V, 5 V, 6 V, or 8 V
<b>Hysteresis</b>	Half of threshold
<b>Overvoltage Protection</b>	±100 V
<b>Transient Protection</b>	CAT I 100 V
<b>Isolation</b>	CAT I 100 V
<b>Signal Polarity</b>	Selectable

## Event Channels

<b>Number</b>	Up to 16 per group
<b>Sample rate</b>	0.01 S/s to 10 kS/s May be set separately for each group

## Frequency/RPM/Counter/Quadrature Input

<b>Number</b>	1 per group
<b>Resolution</b>	48 bits Bandwidth MHz
<b>Update Rate</b>	0.01 S/s to 10 kS/s

## Digital Input Triggering

Each event channel and counter channel can be used as a trigger.

<b>Pre- and Post-trigger Trigger Rate</b>	0 to full memory length Up to 1 trigger per second per channel
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## Acquisition Modes

<b>Sweep Mode</b>	For repetitive or intermittent phenomena
<b>Continuous Mode</b>	For continuous acquisition
<b>Dual Mode</b>	Combination of sweeps and continuous

## Power Requirements

<b>Power of card</b>	1.7 Watt per module
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## STATSTREAM® Analysis

Each CANbus input channel includes real-time extraction of Max, Min, and Mean values.

Each Event input channel includes real-time extraction of Max, Min, and Mean values

## Ordering Information

**CAN-DI module with one node** 845-081700  
CANbus and digital input module with one CAN node; must select one physical interface option.

**CAN-DI module with two nodes** 845-082800  
CANbus and digital input module with two CAN nodes; must select two physical interface options.

### Physical Interface options

<b>High speed</b>	845-082900
<b>Single wire</b>	845-083000
<b>Fault tolerant</b>	845-083100

<b>GPS Interface option</b>	845-083200
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## Liberty Mainframe

Refer to the separately available datasheet of the mainframe for details and options.



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