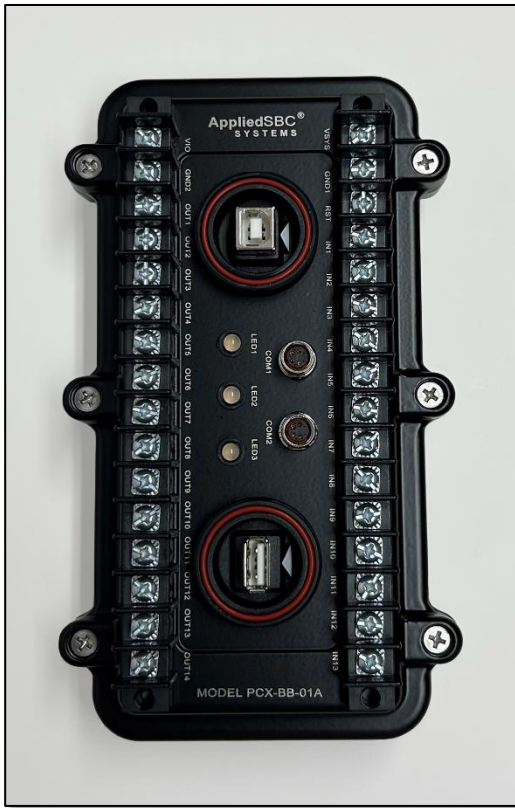


Model: PCX-BB-01A



Description:

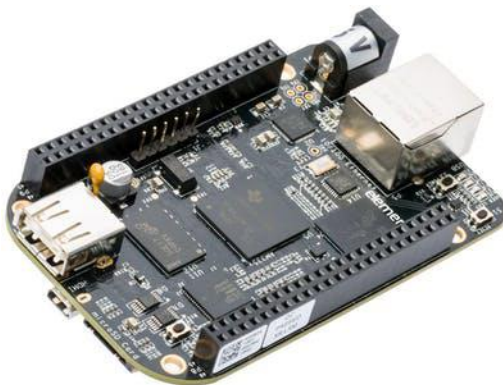
PCX Series industrial computing accessories are designed to accelerate automation projects based on single-board computers. Robust electrical and mechanical features ensure reliable operation in harsh environments.

Features:

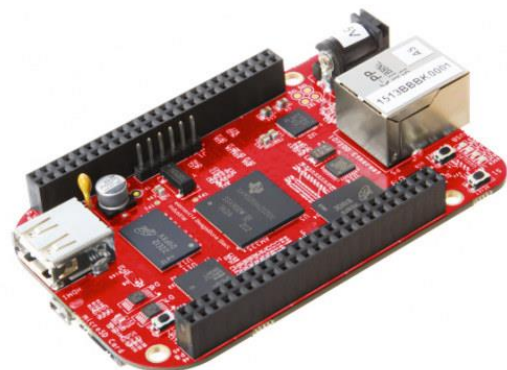
- IP67-Rated Waterproof & Dustproof
- -20°C to 85°C Rated Operating Temperature
- Durable Aluminum Housing
- #6-32 Screw Terminal Blocks
- 14 Isolated Digital Inputs
- 14 Isolated Digital Outputs
- USB Host Type-A Receptacle
- USB Type-B Receptacle (BeagleBone Client)
- Two RS-485 COM Ports (M8-4)
- Three bright RGB LED Indicators

Compatibility:  beagleboard.org

Beagleboard sold separately.

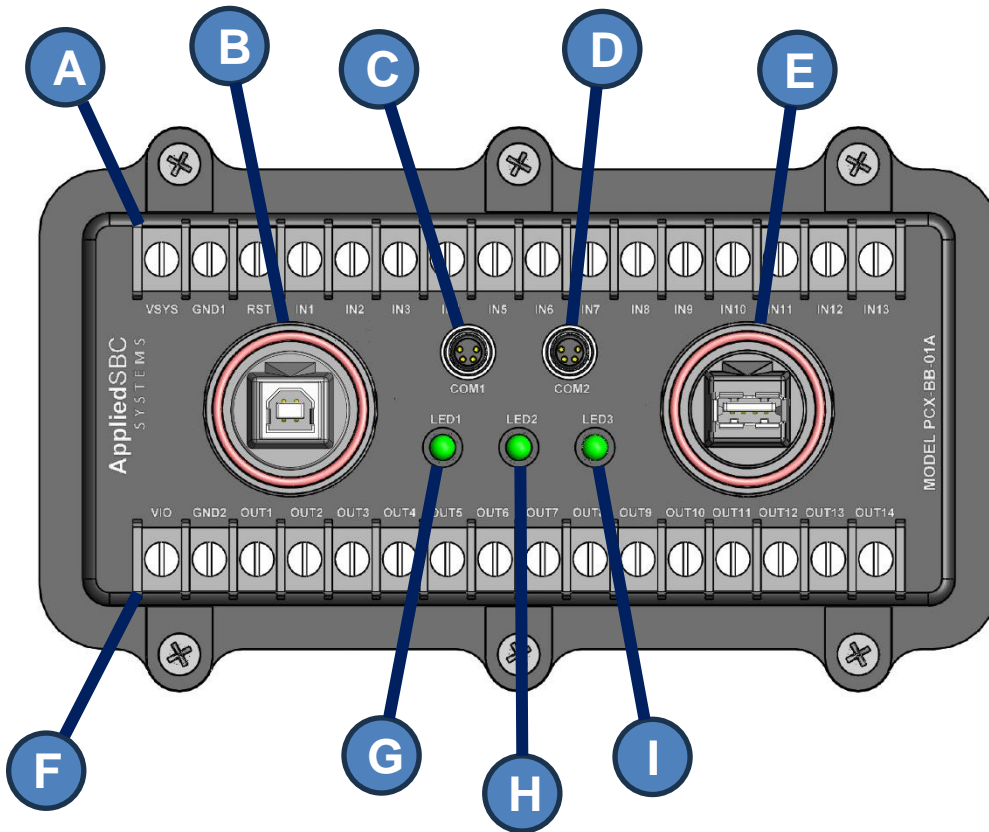


BeagleBone Black Rev. C



BeagleBone Black Industrial

Connections:



A	Terminal Block 1
B	USB Client Type-B
C	COM1
D	COM2
E	USB Type-A Port
F	Terminal Block 2
G	LED1
H	LED2
I	LED3

Pin Map:

Terminal Block 1																	
Label	RST	IN 1	IN 2	IN 3	IN 4	IN 5	IN 6	IN 7	IN 8	IN 9	IN 10	IN 11	IN 12	IN 13	-	-	
BBB Pin	9.10	8.17	8.18	8.14	8.15	8.16	8.43	8.44	8.45	8.46	8.41	8.42	8.39	8.38	8.26	9.12	
Peripheral	RESET	GPIO	GPIO	GPIO	GPIO	GPIO	GPIO	GPIO	GPIO	GPIO	GPIO	GPIO	GPIO	GPIO	UART5-RX	IN ENABLE	OUT ENALE

Terminal Block 2															
Label	OUT 1	OUT 2	OUT 3	OUT 4	OUT 5	OUT 6	OUT 7	OUT 8	OUT 9	OUT 10	OUT 11	OUT 12	OUT 13	OUT 14	
BBB Pin	8.8	8.7	8.10	8.13	9.14	8.19	8.9	9.30	9.42	9.41	9.27	9.25	9.21	9.16	
Peripheral	TIMER7	TIMER4	TIMER6	EHRPWM2B	EHRPWM1A	EHRPWM2A	TIMER5	GPIO	UART3-TX	TIMER7	GPIO	GPIO	UART2-TX	EHRPWM1B	

COM	COM1			COM2		
Label	TX	RX	R/W	TX	RX	R/W
BBB Pin	9.13	9.11	9.23	9.24	9.26	9.23
Peripheral	UART4-TX	UART4-RX	GPIO	UART1-TX	UART1-RX	GPIO

LED	LED1			LED2			LED3		
Label	RED	GREEN	BLUE	RED	GREEN	BLUE	RED	GREEN	BLUE
BBB Pin	9.15	9.17	9.18	9.20	9.22	9.19	9.28	9.31	9.29
Peripheral	GPIO	GPIO	GPIO	GPIO	GPIO	GPIO	GPIO	GPIO	GPIO

Absolute Maximum Ratings:¹

Parameter		Min.	Max.	Unit
Supply Voltage	V _{SYS} to GND1	5	18	V
	V _{IO} to GND2	5	28	V
Supply Current	I _{SYS}	-	950	mA
	I _{IO}	-	700	mA
Isolation Voltage	GND ₁ to GND ₂	-	600	V _{PK}
Digital Input Voltage	IN _x to GND ₁	-1.4	18.5	V
Digital Output Current	I _{OUTx}	-	50	mA
Operating Temperature	T	-20	85	°C
Power Dissipation	θ	-	8	W

1. Stresses beyond those listed under Absolute Maximum Ratings may cause permanent damage to the device. Operating at or near these stress levels for prolonged periods may affect device reliability.

Input Pin Electrical Characteristics:

Parameter		Min.	Typ.	Max.	Unit
High-Level Input Voltage	V _{IH}	4.5	-	16	V
Low-Level Input Voltage	V _{IL}	-0.5	0	1.5	V
Digital Input Sink Current	I _{INx}	-	2	12	mA
Frequency Response	<i>f</i>	-	-	200	kHz

Output Pin Electrical Characteristics:

Parameter		Min.	Typ.	Max.	Unit
High-Level Output Voltage ²	V _{OH}	0.9 x V _{SEL}	V _{SEL}	1.1 x V _{SEL}	V
Low-Level Output Voltage	V _{OL}	-	0	0.4	V
Data Rate	DR	-	-	1	Mbps

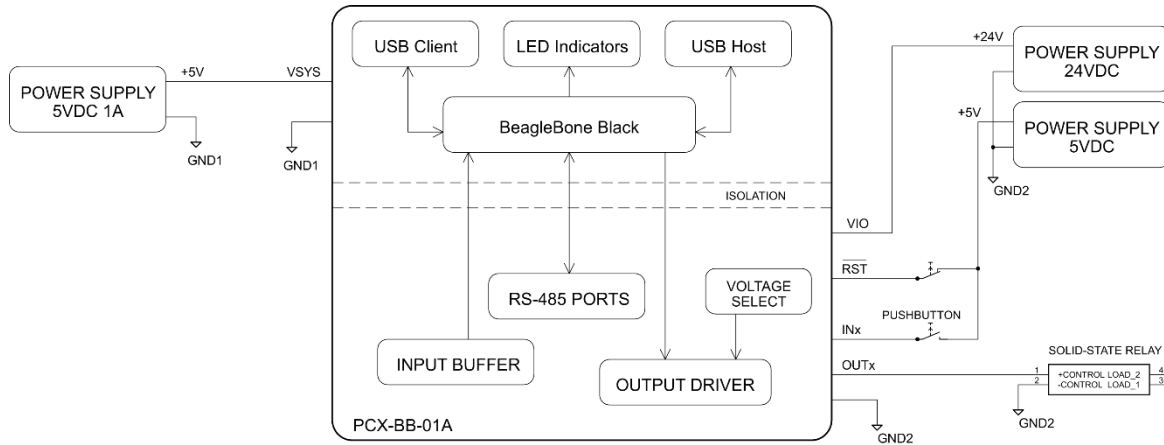
2. Output voltage measured at I_{OUTx} = 0mA.

RS-485 COM Port Electrical Characteristics:

Parameter		Min.	Typ.	Max.	Unit
Data Line Drive Voltage	V _{OH}	2.1	3.3	3.6	V
Internal Termination Resistor Value	R _{AB}	-	120	-	Ω
Data Rate ³	DR	-	-	4	Mbps

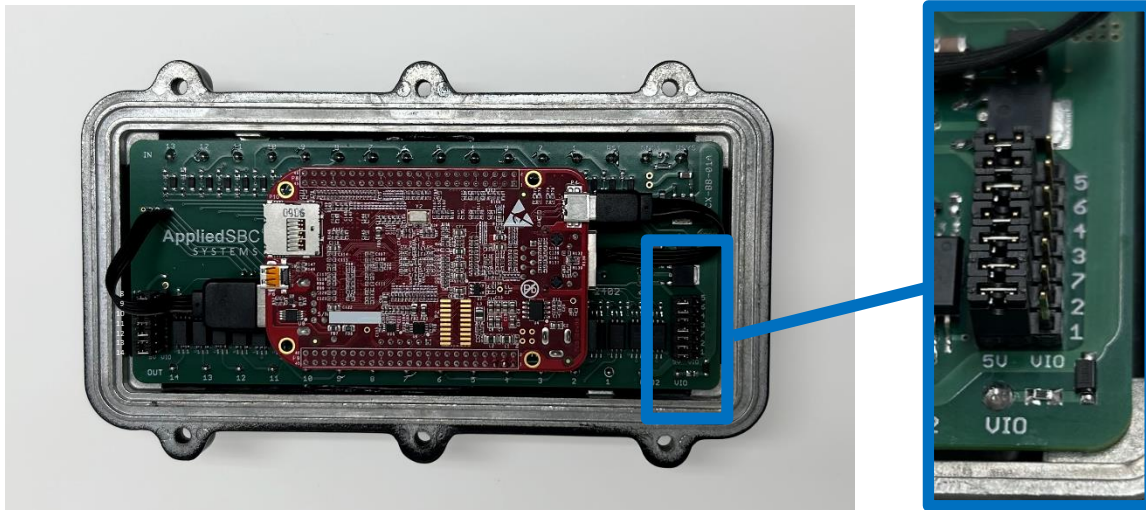
3. Maximum achievable data rate depends on the RS-485 bus characteristics.

Typical Application Circuit



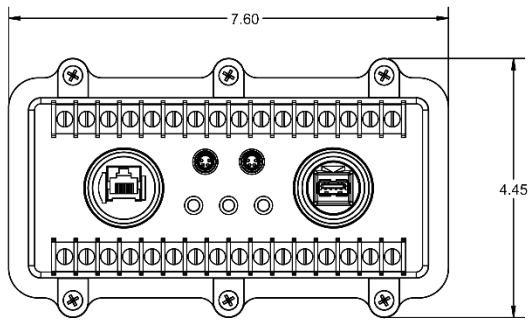
Output Voltage Configuration

The high-state voltage of each output is individually configurable. To configure an output for 5V logic output, place a jumper on the left side of the corresponding header row. Place a jumper on the right side to configure an output's high-state to VIO.

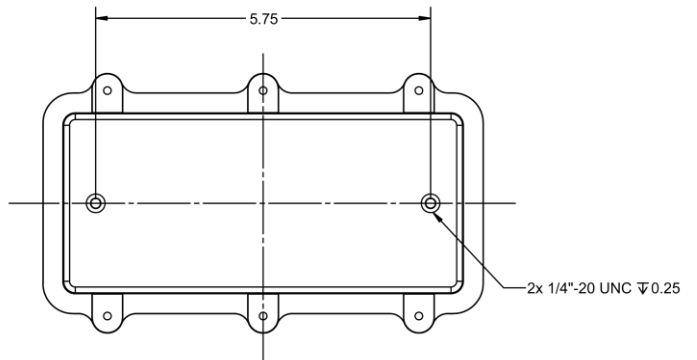


Mechanical Dimensions:

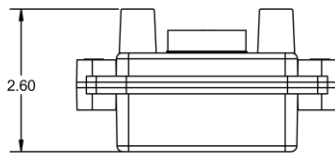
DIMENSIONS ARE IN INCHES



FRONT VIEW



REAR VIEW



SIDE VIEW

Note:

- 1) Terminal block fits 1/4" spade lugs.
- 2) Weight = 1.9 lbs.

