

HazPAC 10-15 Touchscreen Computer

User Manual | H1400811-15



SEALEVEL[®]

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Introduction

Overview

The HazPAC 10-15 is an application-ready platform for your next product design. The system is based on the Intel Atom™ E3845 1.91 GHz Quad-Core Processor. With 8GB of DDR3 RAM and a 64GB CFast SSD port, the unmatched I/O features of the HazPAC 10-15 extend the possible uses beyond traditional Embedded applications.

To provide the fastest time to market, Windows 10 IoT Enterprise LTSC and low-level drivers for system I/O are included.

The HazPAC 10-15 is housed in a rugged, small enclosure suitable for mounting in hazardous locations (see Installation Guide for details) and is rated for a -30°C to $+60^{\circ}\text{C}$ operating temperature range. The HazPAC 10-15 power input accepts an absolute operating voltage range of 9-30VDC.

Features

- 15" 1024x768 400 nit TFT LCD with LED backlight
- Durable resistive 5-Wire touchscreen
- Intel® Atom™ E3845 1.91GHz 2MB L2 cache
- 8GB DDR3 SO-DIMM
- (3) 10/100/1000 BaseT Ethernet Ports
- (1) 64GB CFast Flash Storage
- (1) Mini PCIe (no cut-out) – half-size card only
- (4) USB 2.0 charging Ports
- (2) Isolated RS-485 serial ports
- (2) RS-232 serial port
- (4) Open-collector digital outputs
- (9-30VDC) input power via removable terminal block
- 25W Nominal Power usage, 40W Max power usage
- Compatible with Windows 10 IoT Enterprise LTSC (Intel Atom)



Before You Get Started

What's Included

The HazPAC 10-15 is shipped with the following items. If any of these items are missing or damaged, please contact Sealevel for replacement.

- **HazPAC 10-15 Intel Atom™ E3845 Quad-Core COM Express Type-6 8GB RAM**
- **KT140 - 6-32 Stainless Hex KEP Nut and Washer (QTY of 16)**
- **Installation instructions including compliance and rating information**
- **Preinstalled - Windows 10 IoT Enterprise 64-bit license**

Advisory Conventions



Warning

The highest level of importance used to stress a condition where damage could result to the product, or the user could suffer serious injury.



Important

The middle level of importance used to highlight information that might not seem obvious or a situation that could cause the product to fail.



Note

The lowest level of importance used to provide background information, additional tips, or other non-critical facts that will not affect the use of the product.




Optional Items

Depending upon your application, you are likely to find one or more of the following items useful with the HazPAC 10-15. All items can be purchased from our website (www.sealevel.com) or by calling our sales team at (864) 843-4343.


Cables

SeaLatch USB Type A to USB Type B, 72" Length - Device Cable (Item# CA355)	
<p>The CA355 is a 72" standard USB device cable. The metal thumbscrew on the type A connector ensures secure connection. The CA355 is USB 2.0 compliant and is compatible with USB 1.1 and 1.0 devices.</p>	
SeaLatch USB Type A to USB Type B, 5 Meter Length - Device Cable (Item# CA355-5M)	
<p>The CA355-5M is a 5 meter (16 feet) USB device cable with Sealevel's SeaLatch locking USB type A connector and standard type B connector. The metal thumbscrew on the type A connector provides a secure metal-to-metal connection to devices with SeaLatch USB ports.</p>	
SeaLatch USB Type A to SeaLatch USB Type B, 72" Length - Device Cable, (Item# CA332)	
<p>The CA332 is a 72" USB device cable with Sealevel's SeaLatch locking USB type A and type B connectors. The metal thumbscrew on each connector provides a secure metal-to-metal connection to devices with SeaLatch USB ports.</p>	

OPTIONAL ITEMS, CONTINUED

SeaLatch USB Type A to SeaLatch USB Type B, 5 Meter Length - Device Cable (Item# CA332-5M)	
<p>The CA332-5M is a 5 meter (16 feet) USB device cable with Sealevel's SeaLatch locking USB Type A and B connectors. The metal thumbscrew on the type A connector ensures secure connection.</p>	
USB Type A to SeaLatch USB Type B, 72" Length - Device Cable (Item# CA356)	
<p>The CA356 is a 72" USB device cable that securely connects USB device port (metal thumbscrew lock) to a host computer. The CA356 is USB 2.0 compliant and is compatible with USB 1.1 and 1.0 devices.</p>	
CAT5 Patch Cable, 7' in Length - Blue (Item# CA246)	
<p>Standard 7' CAT5 UTP Patch Cable (RJ45).</p>	

Power Supply

100-240VAC to 12VDC @ 4.0A LPS, Desktop Power Supply (Item# TR135)	
<p>The TR135 is a desktop (brick style) power supply rated for 100-240VAC input and 12VDC output at 4.0 amps LPS. The cable has tinned leads for use with products that have screw terminals for input power.</p>	

Technical Description

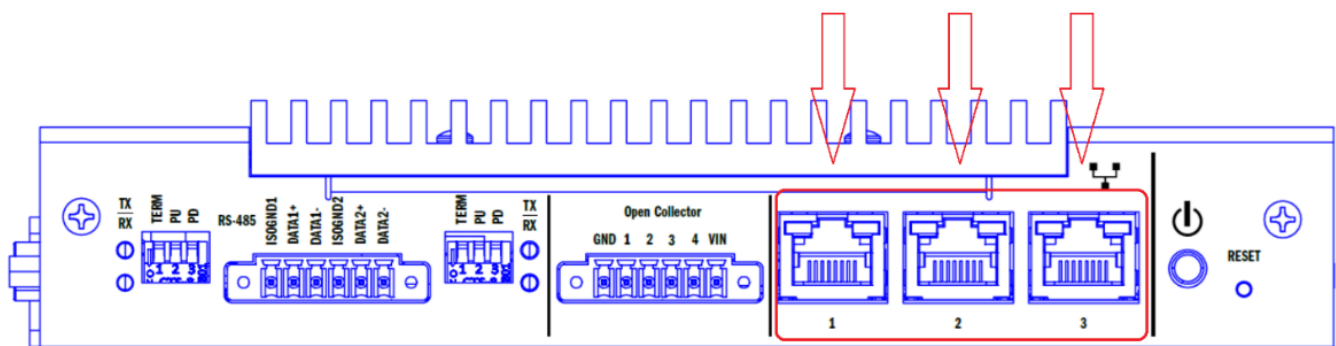
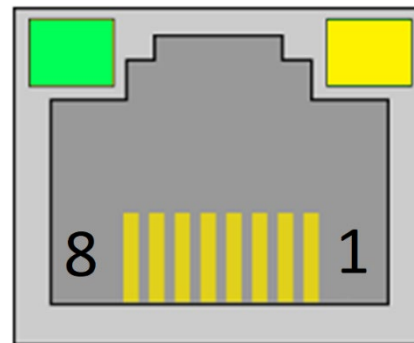
Memory

The HazPAC 10-15 is offered with 8GB DDR3L SDRAM operational memory and is also designed to support a SATA CFAST Type I, II memory card for bulk storage.

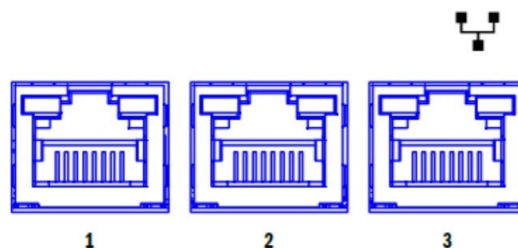
Ethernet

The HazPAC 10-15 includes 3 Gigabit Ethernet ports.

Pin	Signal	GbE Signal
1	TX+	<u>BI_DA+</u>
2	TX-	<u>BI_DA-</u>
3	RX+	<u>BI_DB+</u>
4	C+	<u>BI_DC+</u>
5	C-	<u>BI_DC-</u>
6	RX-	<u>BI_DB-</u>
7	D+	<u>BI_DD+</u>
8	D-	<u>BI_DD-</u>



3 Gigabit Ethernet Ports

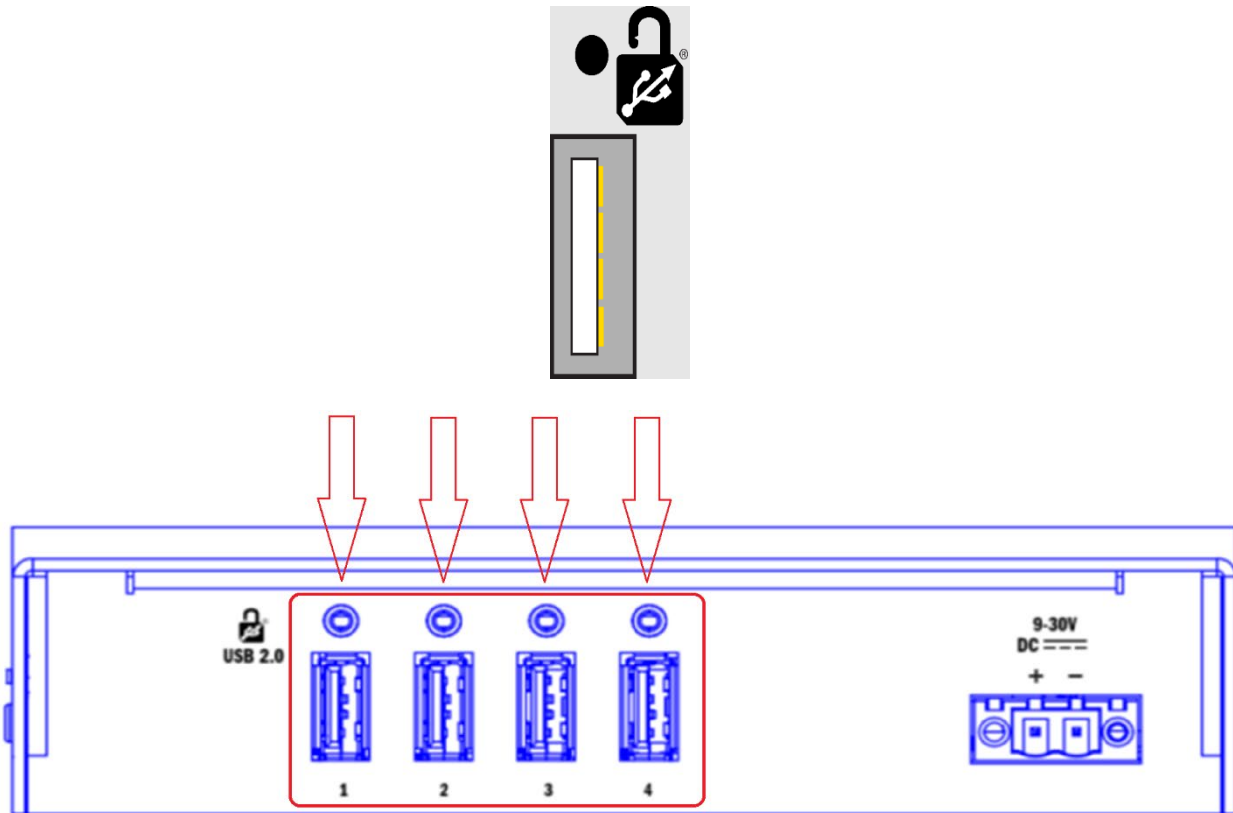


TECHNICAL DESCRIPTION, CONTINUED

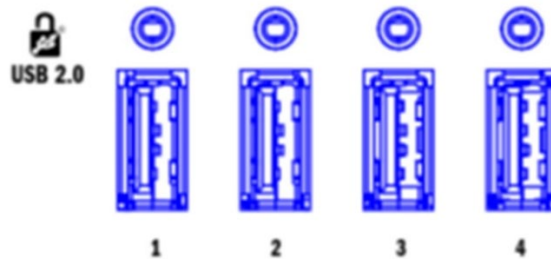
USB

The HazPAC 10-15 provides 4 SeaLATCH USB 2.0 ports

Connector:	Rugged USB 2.0 Type A vertical right angle receptacle
Manufacturer:	Samtec
Description:	Rugged USB Type A, Exceeds retention force of 15N
Mates with:	SeaLATCH USB Type A, or Standard USB Type A



4 SeaLATCH USB 2.0 Ports



TECHNICAL DESCRIPTION, CONTINUED

Display and Touchscreen

The HazPAC 10-15 features a bright 8.4" TFT LCD with LED backlight, and a durable 5-wire resistive touchscreen with glass top. The 5-wire resistive touchscreen is rated for >200 million presses (touches). The touchscreen is calibrated at the factory. If recalibration is necessary, please use the calibration tool included with existing PenMount driver.

Below are images of the screen from a frontal view and the display screen face down. With the display face down, you can see all external input and output ports.

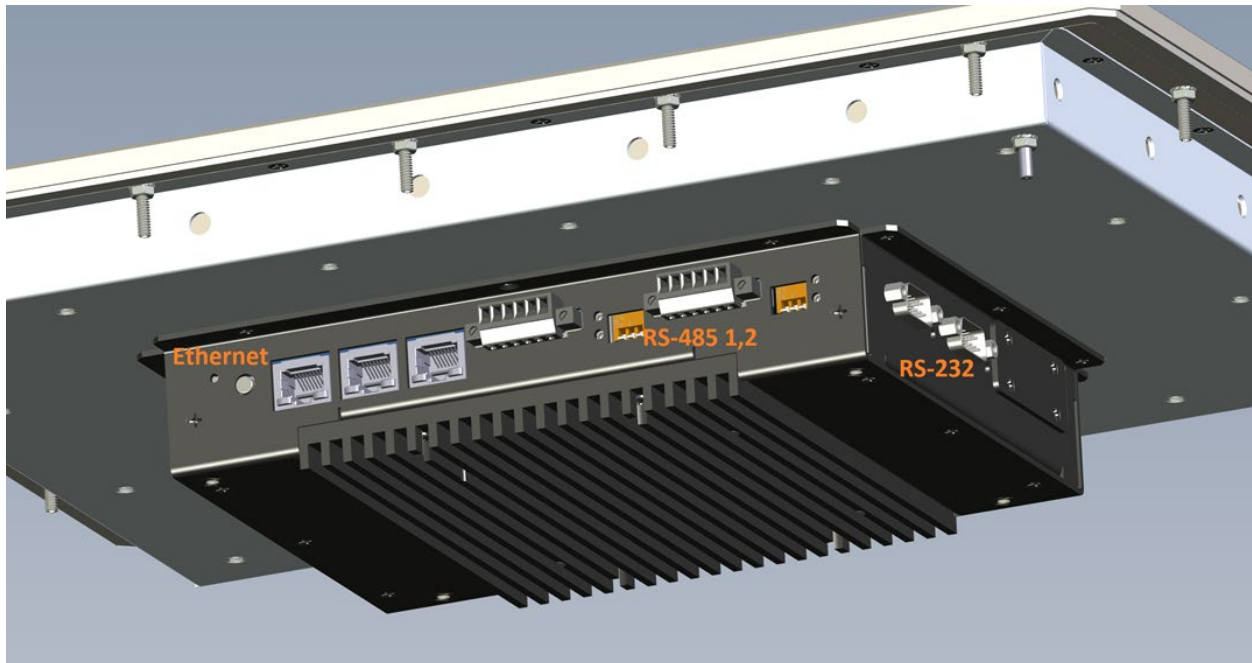


Serial Communications

You can connect to a variety of serial peripherals via the HazPAC 10's serial ports. To start with, there are two isolated RS-485 serial ports which are provided via a 6 position, 3.5mm pitch terminal block with screw retention.

The RS-485 serial port has adjacent DIP switches to Pull-up/Pull-Down the data lines and to add Termination across each data pair.

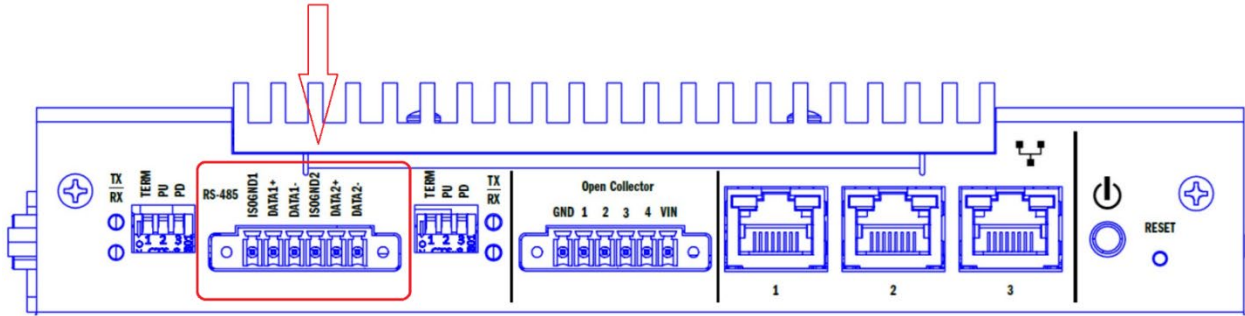
Finally, two RS-232 serial ports with full modem control are provided, which interface via DB9 male connectors.



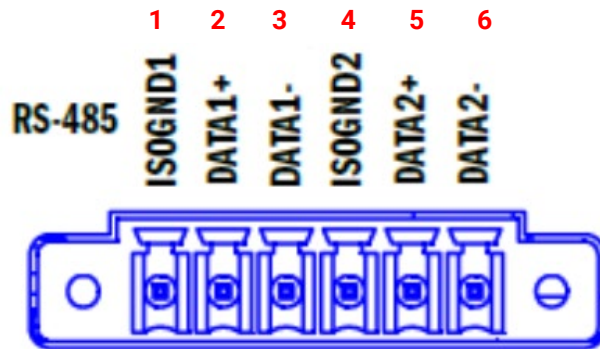
TECHNICAL DESCRIPTION, CONTINUED

Connectors: RS-485 port 1 and RS-485 port 2

Description: 6 Position 3.5mm Terminal Block



RS-485 Port 1 and RS-485 Port 2

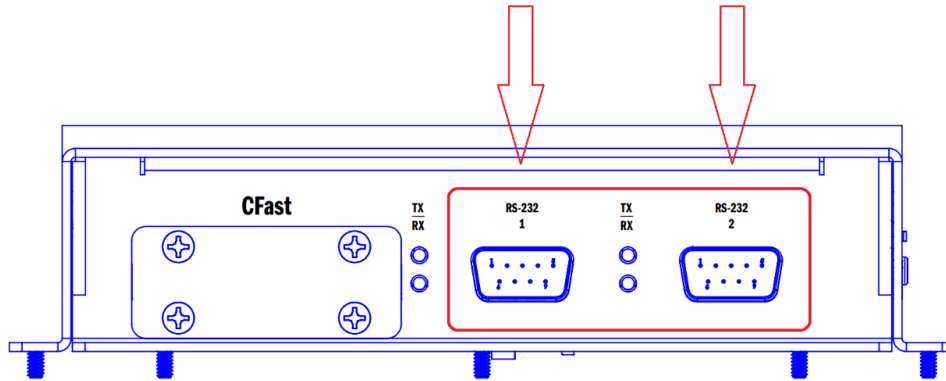


PIN	RS-485 Isolated
1	ISOGND1
2	DATA1+
3	DATA1-
4	ISOGND2
5	DATA2+
6	DATA2-

TECHNICAL DESCRIPTION, CONTINUED

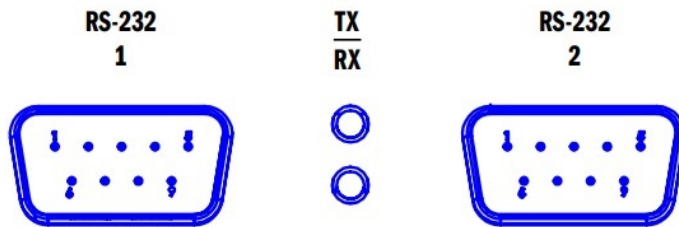
Connectors: RS-232 port 1 and RS-232 port 2

Description: DB-9 Male



RS-232 Port 1 and RS-232 Port 2

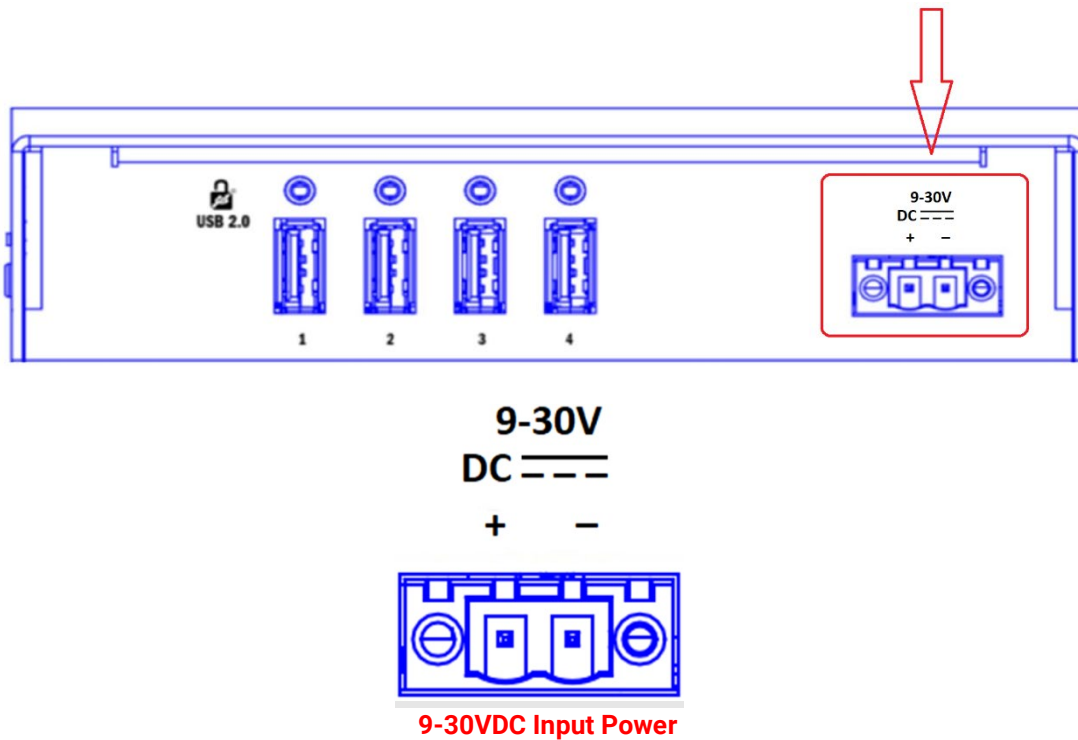
PIN	RS-232
1	DCD
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI



Input Power

The HazPAC 10-15 can operate from 9-30VDC. The power source must be appropriately listed ITE Power Supply Limited Power Source, or LPS, suitable for the maximum ambient temperature at the installation.

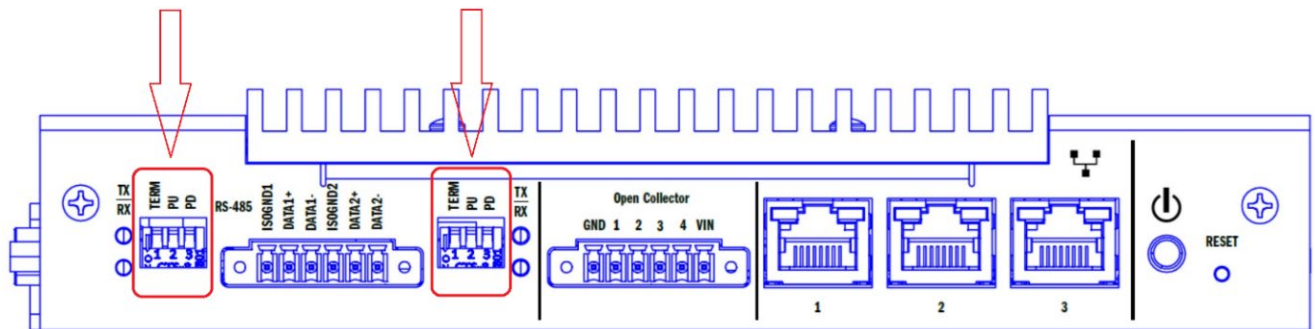
Absolute Operating Range:	9-30VDC
Rated Voltage:	12-27VDC 4A- 1.5A, respectively
Power Usage:	25W nominal / 40W max



The voltage applied here is also present on the Open Collector output VIN pin and can be used to power the open collector outputs.

RS-485 Termination and Pull-up/Pull-down Resistors

Each RS-485 Isolated port has selectable line conditioning via the three DIP switches to the side of the RS-485 terminal block. These switches control whether termination and pull-up/pull-down resistors are active for the port.



Pull-up/Pull-down Resistors (DIP Switches)

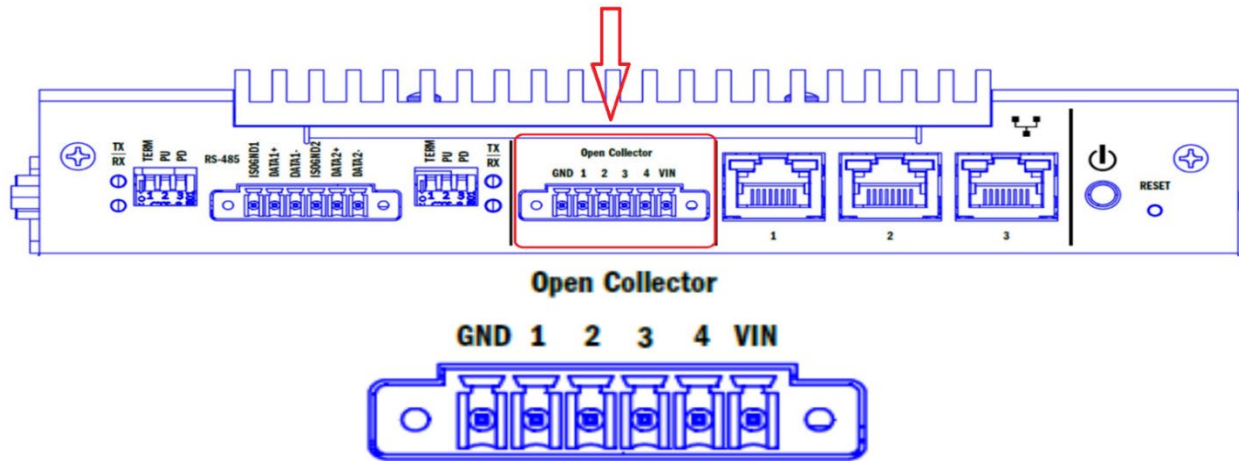


DIP Switch	Position	Result
TERM	OFF (Down or away from screen) ON (Up or toward screen)	DISABLED - No termination ENABLED - Terminate between D+ and D- lines with 120 ohm resistor
PU	OFF (Down or away from screen) ON (Up or toward screen)	DISABLED - No pull-up ENABLED- Pull-up D+ line to isolated 3.3V ISO1 plane via 510 ohm resistor
PD	OFF (Down or away from screen) ON (Up or toward screen)	DISABLED - No pull-down ENABLED - Pull-down D- line to isolated GND ISO1 plane via 510 ohm resistor

The pull-up and pull-down resistors ensure that the D+ and D- lines are at a known state when not being driven by the RS-485 bus. The first and last devices in a RS-485 bus should enable line termination, as well as the pull-up and pull-down resistors.

Open Collector Outputs

The HazPAC 10-15 is equipped with 4 open-collector outputs. Each output is rated for 30VDC. The open collectors can sink up to 100mA per output, up to a maximum of 400mA total.



Connector	OPEN COLLECTOR
Manufacturer:	MOLEX
Part Number:	39506-1006
Description:	6 Position Right Angle 3.5mm Header
Mates with:	MOLEX 39504-0006 6-Position 3.5mm Pluggable Screw Terminal
Screw Torque:	5.5 in lbs. (0.62 Nm)
Wire gauge:	AWG 16-30 (1.31mm ² – 0.05mm ²)
Wire rating:	85°C or higher

Pin	Signal
1	GND
2	Output 1
3	Output 2
4	Output 3
5	Output 4
6	VIN/COM

Output Wiring for HazPAC 10-15

The HazPAC 10 supports multiple wiring options for the Open Collectors for maximum flexibility depending on your power source. Each option is described below.

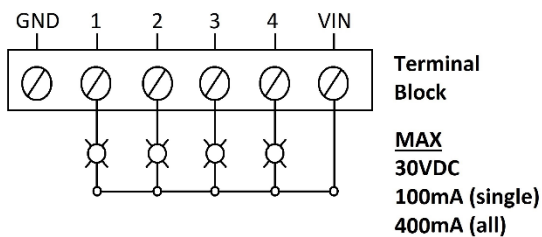


Each open collector circuit in the array (ULN2803A) contains a suppression diode for inductive load protection. These diodes are only utilized if VIN is connected.

Internal Voltage Wiring

The HazPAC 10's internal power supply provides 9-30VDC at VIN to power open-collector outputs. The VIN pin is diode protected to accept a user provided external 9-30VDC to power the open-collector outputs.

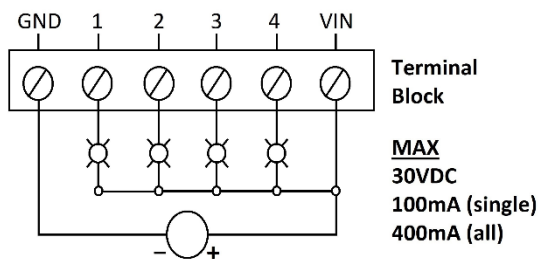
Open Collector Digital Outputs



External Voltage Wiring (with Internal Flyback Protection)

Under some scenarios, you can utilize the internal flyback diodes when using an external power source. This scenario is only possible if your external power source is a higher voltage than the power supply of the HazPAC 10. See the next section if your external voltage source is lower than that of the HazPAC 10 power supply.

Open Collector Digital Outputs



These outputs are polarized but do not have reverse polarity protection. Be mindful of the polarity when connecting your power source.

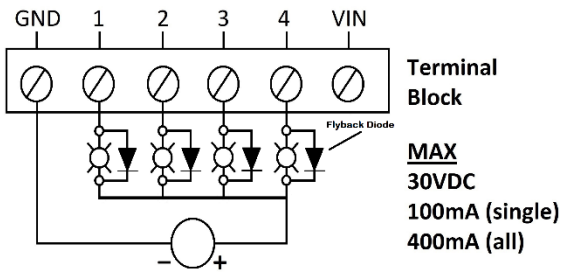


Your external power source must have a higher voltage than the power supply of the HazPAC 10.

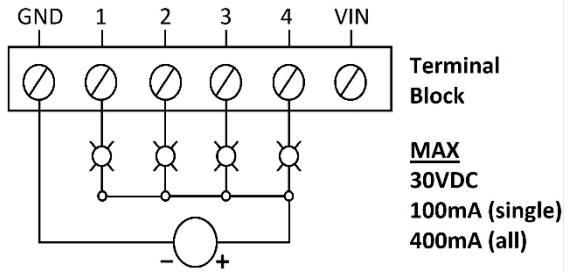
External Voltage Wiring (with and without External Flyback Protection)

Voltage can be provided independently HazPAC 10's power supply if Vin is not connected. However, this also removes the integrated flyback protection. You will need to add your own flyback diodes if you are switching inductive loads.

**Open Collector Digital Outputs
With Flyback Protection**



**Open Collector Digital Outputs
Without Flyback Protection**



External flyback diodes are required to protect the outputs when switching inductive loads.

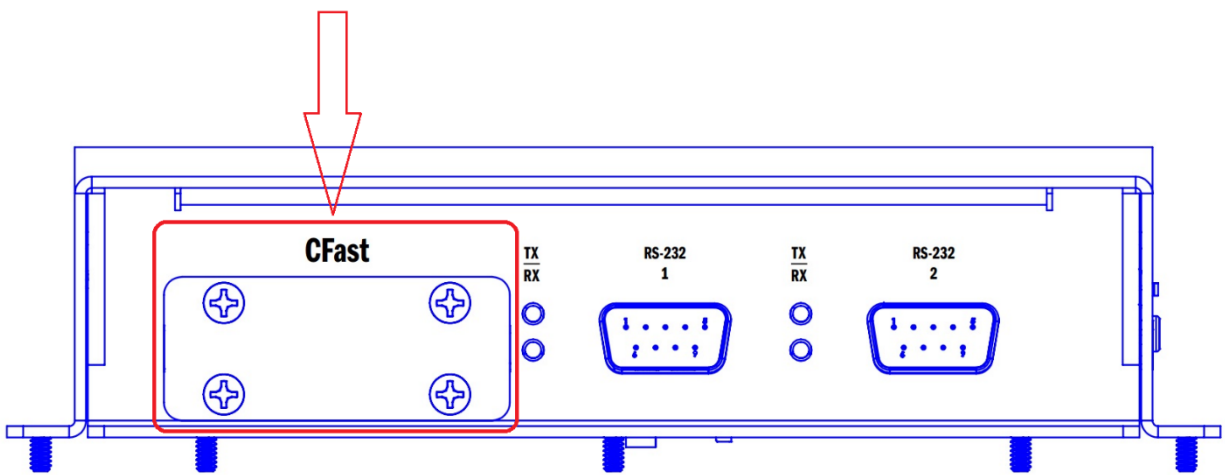
SATA CFAST Type I, II memory

Advisory Conventions



When power is removed from the HazPAC 10-15, the CFAST memory card inside can be replaced. To do this remove all screws from the cover for the memory card port. The existing card can then be pulled from the port and a new card inserted. Reinstall the port cover before connecting power to the device.

The existing card can then be pulled from the port and a new card inserted. Reinstall the port cover before connecting power to the device.



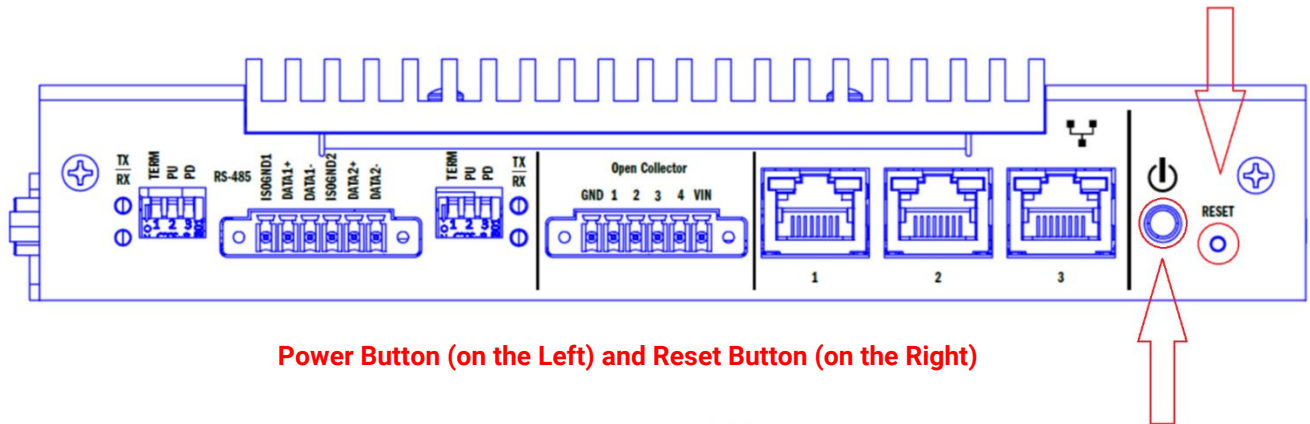
SATA CFAST Type I, II Memory Card Port

CFAST

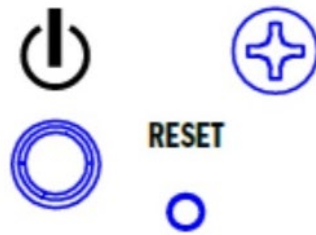


Reset and Power buttons

A full system Hardware Reset is provided by a recessed tactile switch. The Processor and peripherals will be issued a reset command when the Reset button is pressed and held for **5-6** seconds. Use a blunt non-conductive instrument to depress the reset button.



Power Button (on the Left) and Reset Button (on the Right)



Just like with the Reset button, the Power button needs to be pressed and held for 5-6 seconds to turn the device on or off.

Hardware Installation

For full installation instructions, please refer to the Installation Guide provided with your HazPAC 10. If you do not have the installation guide readily available, contact our sales team at sales@sealevel.com. They can also provide you with a 1 to 1 ratio cutout diagram, access to 3D model images, and compliance certifications for the HazPAC 10.

Software Installation

At Sealevel Systems, we preinstall all required software needed for the HazPAC 10-15. If for some reason you need to reinstall any software or drivers, you can find what you need at the below links:

1. [SeaMAX - Windows Download](#)
2. [Software: SeaCOM - Windows - Sealevel](#)
3. [PenMount Windows Universal Driver for touch screen](#)

A. Please select “PenMount 6000/6010 USB” from the Controller dropdown menu.

N The below links require a free Congatec account.

4. [Congatec Conga-TCA3](#)
5. [Congatec - Intel HD Graphics Driver](#)
6. [Congatec - Trusted Execution Engine](#)
7. [Congatec - Intel Chipset](#)

SeaMAX Application Suite

SeaMAX Overview

Sealevel digital and analog I/O modules supported by SeaMAX software are designed to work with third party applications via the SeaMAX API. To help simplify application development, the complete API documentation and code samples are automatically installed with the SeaMAX Suite and can be found in Windows by clicking Start → All Programs → Sealevel SeaMAX → Documentation. This can also be accessed online at [SeaMAX API Documentation - Sealevel](#)

N The HazPAC 10 digital outputs do not support Modbus commands.

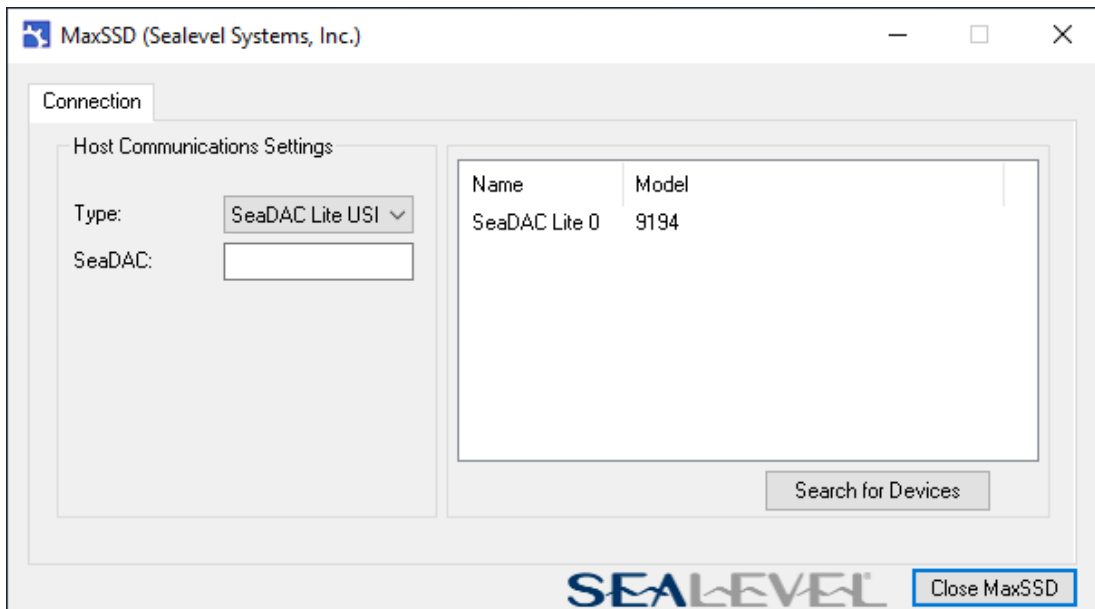
MaxSSD Configuration & Diagnostics Utility

The Sealevel Systems configuration utility, MaxSSD, is designed to simplify the installation, configuration, and diagnostics of Sealevel I/O modules.

Host PC Configuration Tab

The first time you run the MaxSSD utility (Start → All Programs → Sealevel SeaMAX → MaxSSD) it will default to the “Connection” tab. This tab allows the user to choose the initial communication settings for the connected I/O device.

To communicate with the Digital Outputs of the HazPAC 10, select “SeaDAC Lite USB” from the “Type” dropdown box. MAXSSD will search for the internal SeaDAC Lite. You should see the internal SeaDAC Lite displayed on the right-hand frame as model number 9194. Double click on this unit and a new “Digital IO” tab will appear. You can use this new tab to test the functionality of the Open Collector Digital Outputs.

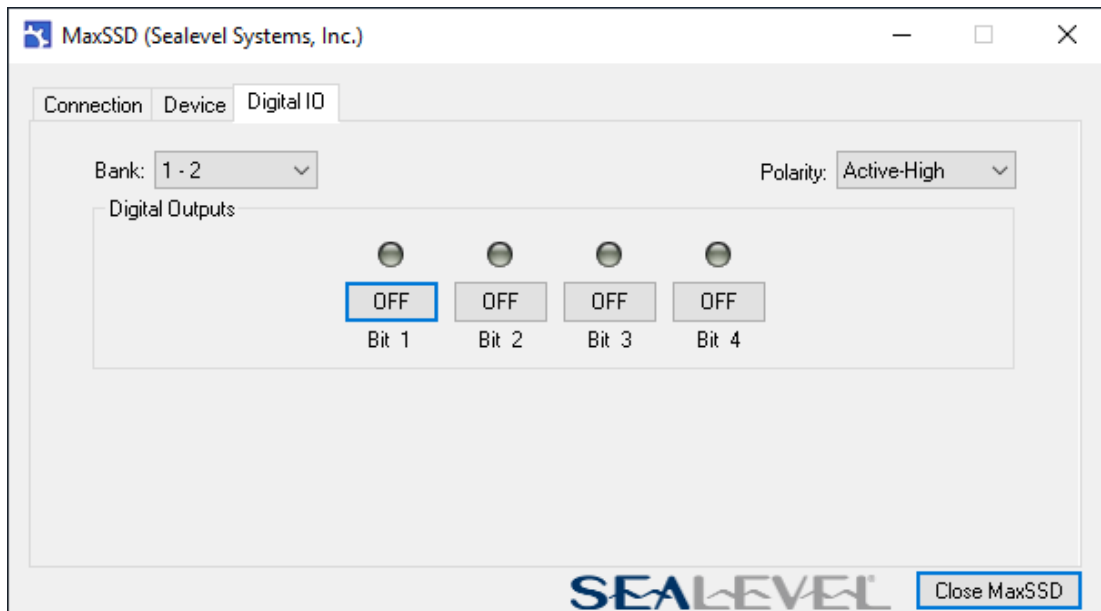


Digital I/O Tab

The “Digital IO” tab of MaxSSD is displayed when using Sealevel I/O devices featuring discrete inputs and outputs. It displays the device’s current input and/or output status in an intuitive and usable manner.

The “Digital IO” tab displays any inputs and outputs of the connected device.

Each Digital Output can be activated or deactivated using the buttons below each output LED. The corresponding status LED in the “Digital IO” window indicates the state of the outputs. A green LED above the digital output indicates the Digital Output is active, a darkened LED indicates it is inactive. The example below shows the 4 Digital Outputs of the HazPAC 10 in an inactive state.



The “SeaIO Configuration” tab does not appear in MaxSSD when using the Digital Outputs on the HazPAC 10 since they have no configurable communication settings.

Troubleshooting - SeaMAX

By using this software and following these simple steps, most common problems can be eliminated without the need to call Technical Support.

1. Uninstall any previous versions of the SeaMAX software before installing any new versions.
2. **Before using the Digital Outputs, verify SeaMAX Software Suite is fully installed.**
3. Confirm that all screw terminal connections are correct and secure. Use the MaxSSD utility to verify proper installation.
4. MaxSSD is designed to simplify the installation, configuration, and diagnostics of Digital Outputs of the HazPAC 10.

If these steps do not solve your problem, please call Sealevel Systems' Technical Support, (864) 843-4343. Our technical support is free and available from 8:00AM-5:00PM Eastern Time, Monday through Friday. For email support contact: support@sealevel.com.

Appendix A – Troubleshooting Serial Communication Issues

Ensure that the Sealevel Systems SeaCOM software has been installed on the machine, so that the necessary files are in place to complete the installation. To confirm installation, click on the Windows 'Start' button and then select 'All Programs.' You should see the 'Sealevel Systems - SeaCOM' program folder listed.

Check to make sure that USB support is enabled and functioning properly in the operating system. Right click on the Start Menu, then click on the Device Manager and expand the Ports (COM & LPT) section. You should see 4 COM ports. Two labeled for RS232 and two labeled for RS485

Always use the Sealevel Systems diagnostic software when troubleshooting a problem. This will eliminate any software issues from the equation.

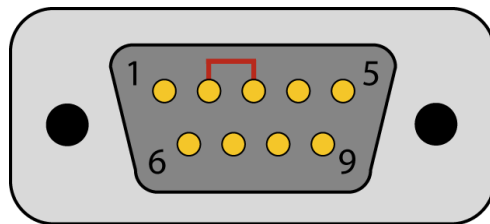
Troubleshooting/Verification for Asynchronous Serial Products

The HazPAC 10 has two 2-wire RS-485 serial ports, meaning the transmitter and receiver to the same data channel. For this reason, an external loopback adapter will not work with 2-wire RS-485.

To successfully perform a loop back test with 2-wire RS-485, the easiest method is to connect the two adjacent serial ports together and use the BERT function in the [Sealevel WinSSD utility](#).

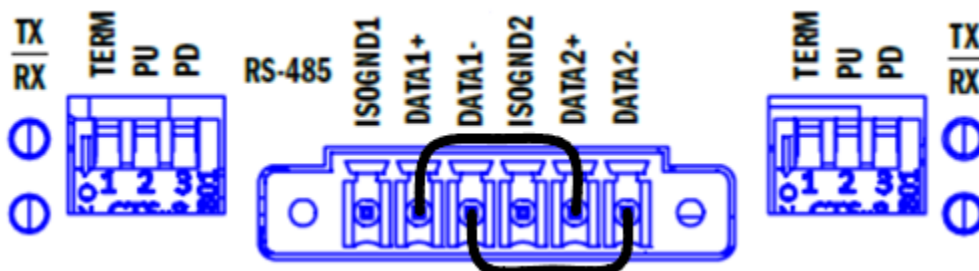
See the steps below on the RS-232 ports and RS-485 ports on the HazPAC 10:

1. RS-232 requires pins 2 (Receive) & 3 (Transmit) to be connected as shown in this graphic:

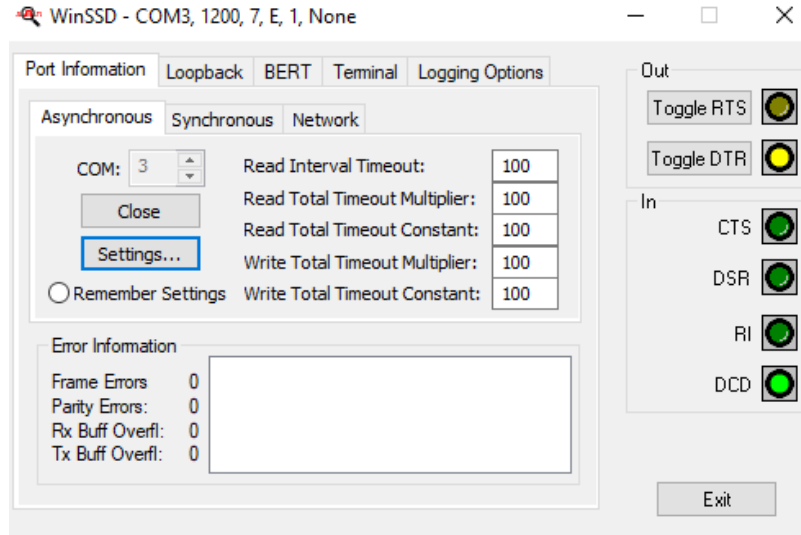


If you do not have a loopback plug or jumper wires handy, you can use a metal device, such as a knife, screwdriver, key, or paperclip, to short pins two and three.

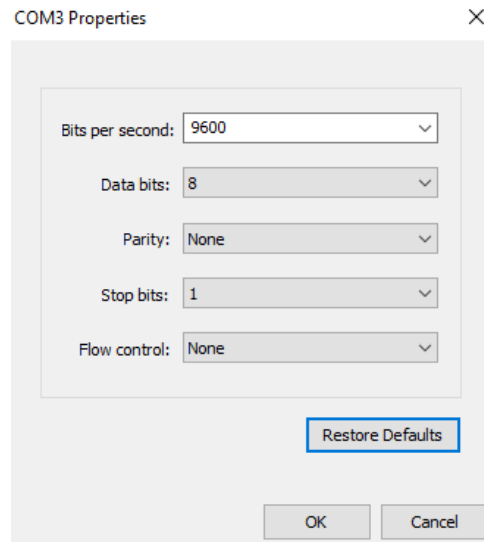
2. The RS-485 ports are half duplex. To test these ports, we will need to jump Port 1 and Port 2 together, as shown in the graphic below:



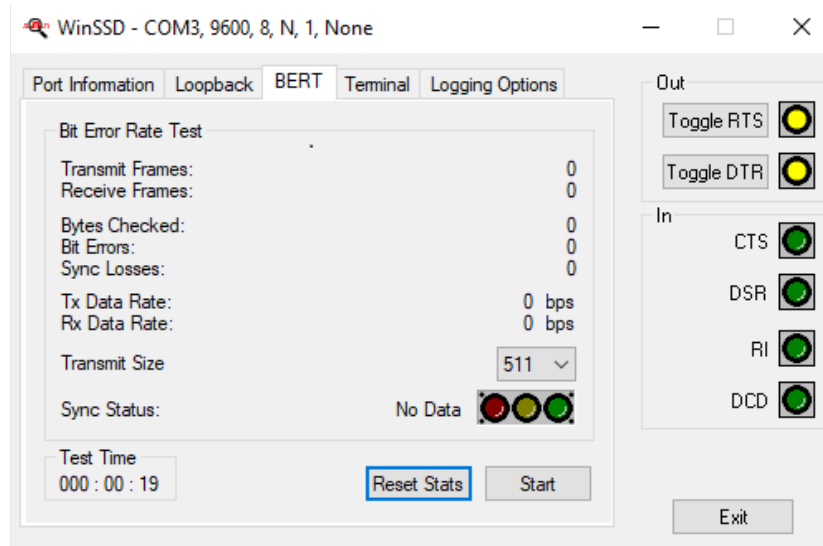
3. To test communications, launch the WinSSD utility in the SeaCOM folder in the 'Start' menu.
4. On the 'Port Information' tab, select the associated COM port and click the 'Open' button.
 - (RS485 only): Launch a second WinSSD window and select the COM port of the other RS485 port.
5. This will first open the COM port. From this tab the port can also be closed (See image below). Click the 'Settings' button to open the COM Port Properties dialog box. This will allow the Port Settings to be altered.



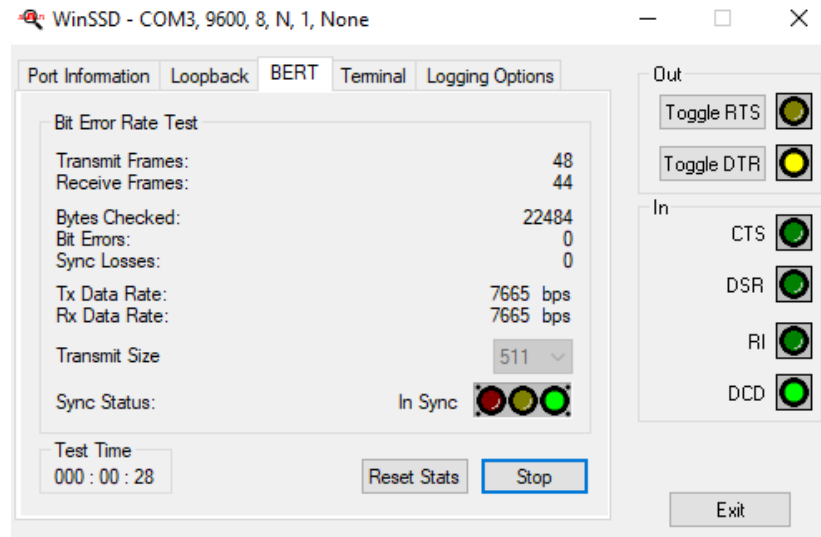
6. Change your parameters to 9600 bits per second, 8 data bits, no parity, 1 stop bit, and no flow control, as pictured below.



7. Click 'Apply' and 'OK.'
 8. In the main WinSSD window, click on the 'BERT' tab (Bit Error Rate test).
 9. (RS232) Click on the 'Start' button.
- (RS485) Only click 'Start' on one instance of WinSSD. Since the RS485 ports are half duplex we cannot run the BERT test simultaneously on both ports.

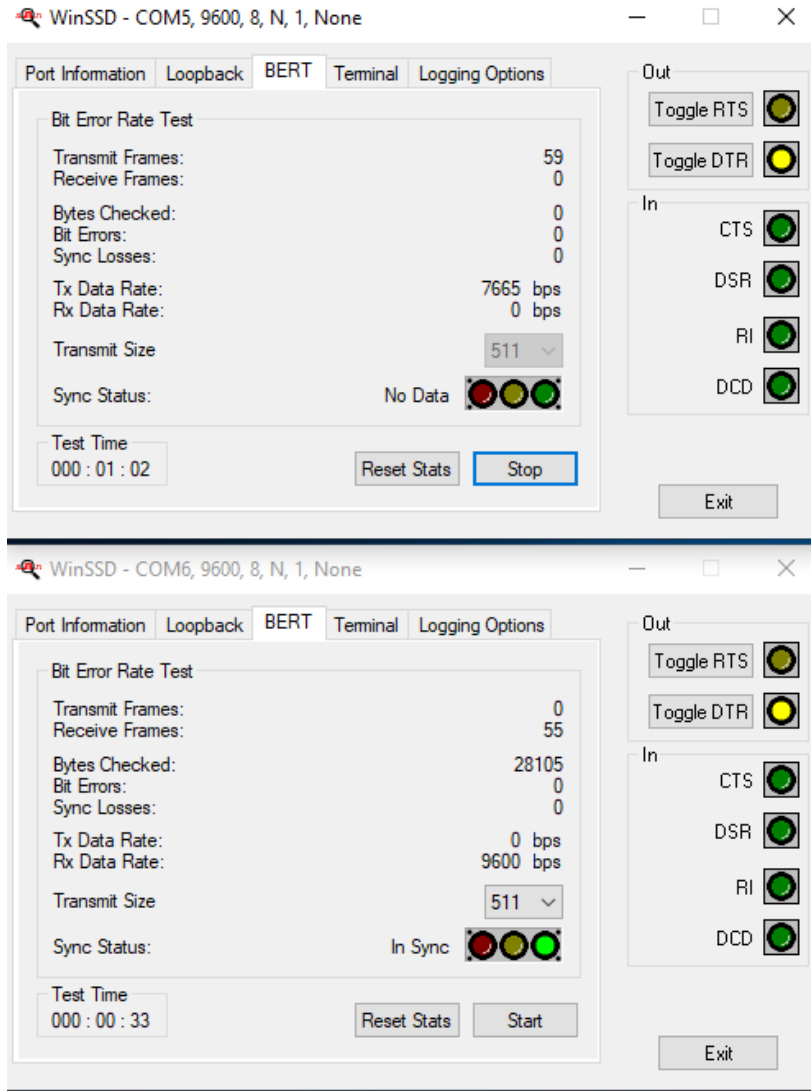


10. (RS232) If the COM port is properly working, the Sync Status green light will glow, and the Transmit Frames and Receive Frames will increase. The Tx and Rx Data Rates will show the calculated data rate.



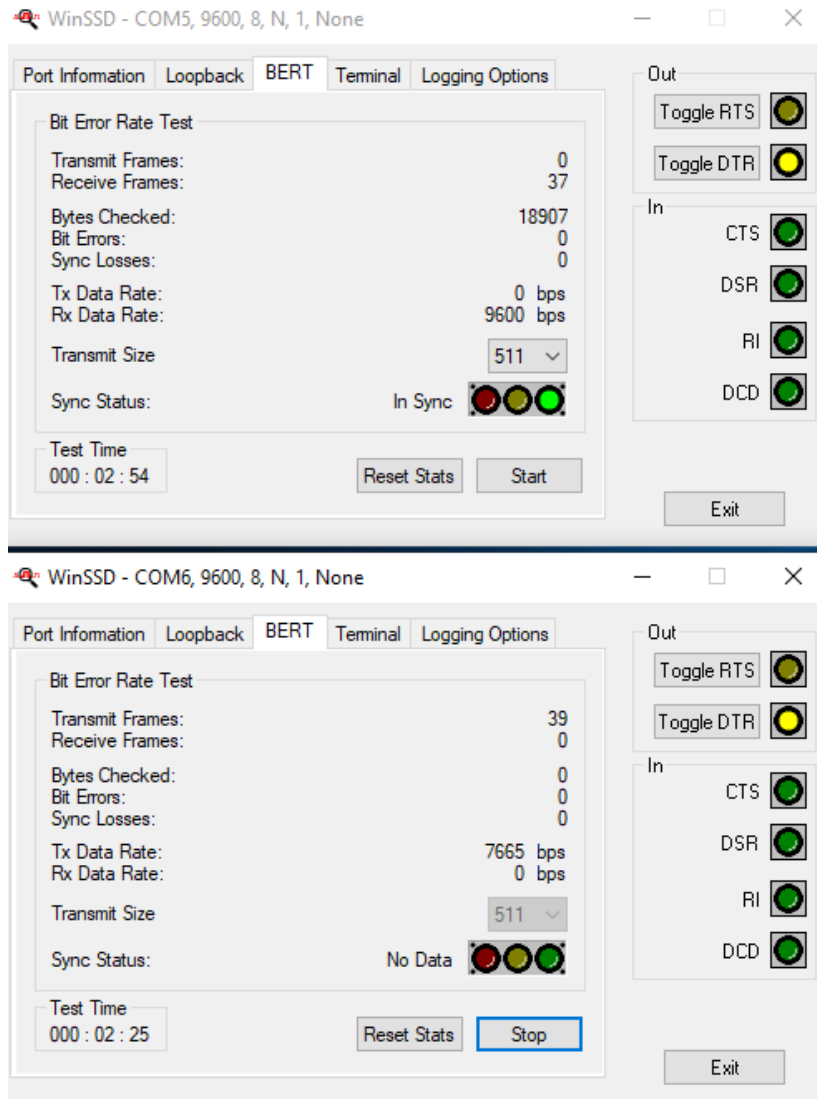
Passing RS232 loopback test

(RS 485) If the COM port is properly working, the Sync Status green light will glow on the receive port. Transmit Frames will increase on the port running the BERT test, Receive Frames will increase on the receive port. The Tx and Rx Data Rates will show the calculated data rate.



Passing RS485 loopback test - WinSSD in top image is transmitting port.

11. (RS485 only) Click on the 'Stop' button. Repeat steps 11 and 12 on the other port.



Passing RS485 loopback test - WinSSD in bottom image is transmitting port.

- This verifies that the adapter is working properly. You can continue testing this port with different configurations or proceed with testing other ports, if necessary.

Appendix B – How To Get Assistance

Please refer to: [Appendix A](#) – Troubleshooting Guide prior to calling Technical Support.

Begin by reading the Trouble Shooting Guide in Appendix A. If assistance is still needed, please see below.

When calling for technical assistance, please have your user manual and current adapter settings. If possible, please have the adapter installed in a computer ready to run diagnostics.

Sealevel Systems provides an FAQ section on its web site. Please refer to this to answer many common questions. This section can be found at <http://www.sealevel.com/faq.asp>.

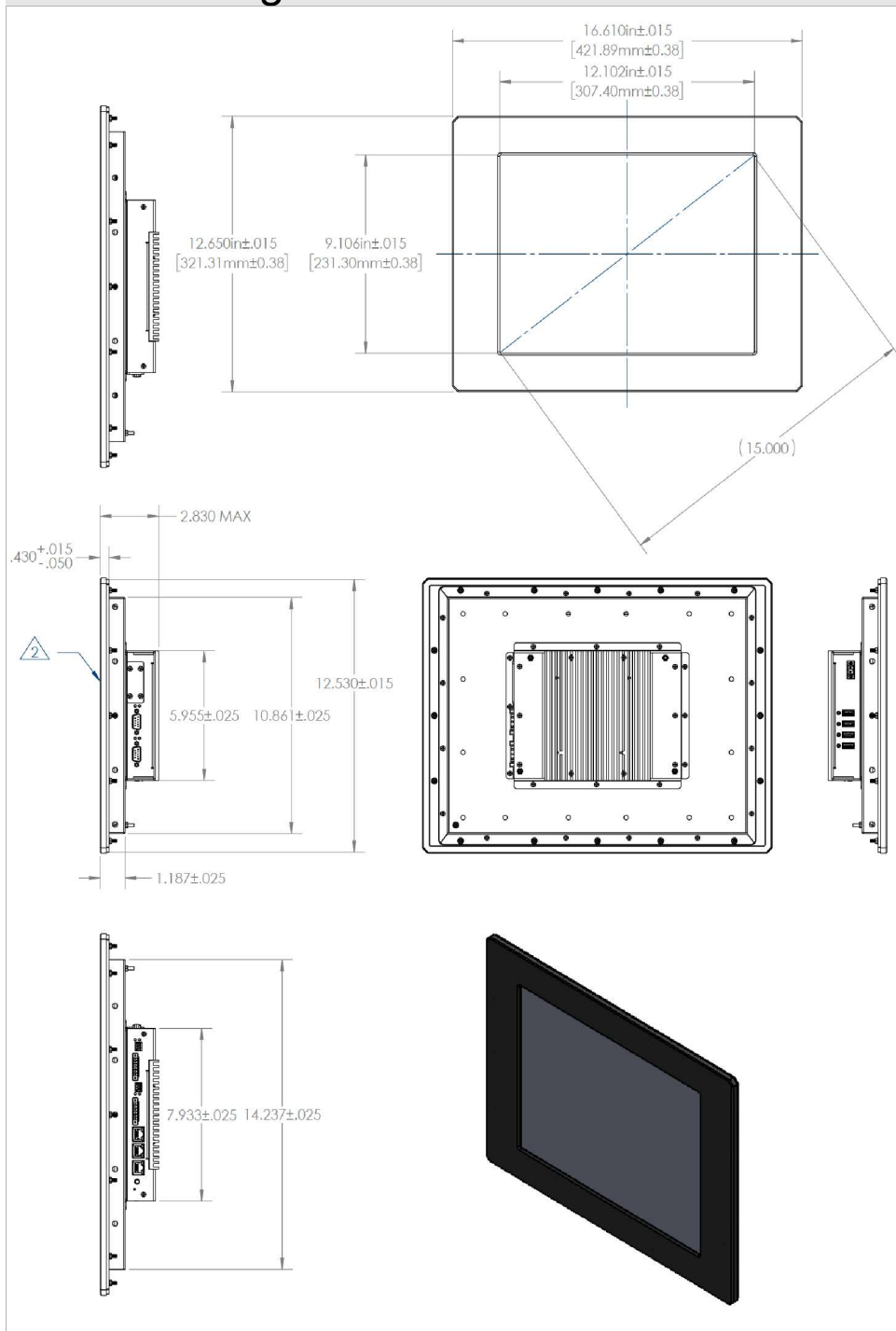
Sealevel Systems maintains a web page on the Internet. Our home page address is www.sealevel.com. The latest software updates, and newest manuals are available via our web site.

Technical support is available Monday to Friday from 8:00 AM to 5:00 PM Eastern Time. Technical support can be reached at (864) 843-4343.

RETURN AUTHORIZATION MUST BE OBTAINED FROM SEALEVEL SYSTEMS BEFORE RETURNED MERCHANDISE WILL BE ACCEPTED. AUTHORIZATION CAN BE OBTAINED BY CALLING SEALEVEL SYSTEMS AND REQUESTING A RETURN MERCHANDISE AUTHORIZATION (RMA) NUMBER.

Appendix C – CAD Drawing – 15” model

CAD Drawing – 15” model



Appendix D – Compliance Notices

Federal Communications Commission (FCC) Statement



This equipment has been tested and found to comply with the limits for Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in such case the user will be required to correct the interference at the users expense.

EMC Directive Statement



Products bearing the CE Label fulfill the requirements of the following directives issued by the European Commission:

- Electromagnetic Compatibility Directive –2014/30/EU
- Low Voltage Directive 2014/35/EU
- ATEX Directive - 2014/34/EU
- RoHS Directive 2011/65/EU + (EU) 2015/863

China Compulsory Certification Statement



- *The product(s) is verified and certified according to CNCA-C23-01: 2019 China Compulsory Certification Implementation Rule on Explosion Protected Electrical Product and CNEC-C2301-2019 Guideline of China Compulsory Certification Implementation Rule on Explosion Protected Electrical Product.*
- H1400811-15R unit: *Certificate No. 2021312309000511*

United Kingdom Conformity Assessed Statement



Products with UKCA marking are in conformity with the essential requirements of the UK Electromagnetic Compatibility Regulations 2016:

- *Equipment must be designed and manufactured to ensure that the electromagnetic disturbance generated does not exceed the level above which radio and telecommunications equipment cannot operate as intended.*
- *The equipment has a level of immunity to the electromagnetic disturbance to be expected in its intended use which allows it to operate without unacceptable degradation of its intended use.*



This is a Class A Product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures to prevent or correct the interference.



Always use cabling provided with this product if possible. If no cable is provided or if an alternate cable is required, use high quality shielded cabling to maintain compliance with FCC/EMC directives.

Warranty

Sealevel's commitment to providing the best I/O solutions is reflected in the Lifetime Warranty that is standard on all Sealevel manufactured I/O products. We are able to offer this warranty due to our control of manufacturing quality and the historically high reliability of our products in the field. Sealevel products are designed and manufactured at its Liberty, South Carolina facility, allowing direct control over product development, production, burn-in and testing. Sealevel achieved ISO-9001:2015 certification in 2018.

Warranty Policy

Sealevel Systems, Inc. (hereafter "Sealevel") warrants that the Product shall conform to and perform in accordance with published technical specifications and shall be free of defects in materials and workmanship for the warranty period. In the event of failure, Sealevel will repair or replace the product at Sealevel's sole discretion. Failures resulting from misapplication or misuse of the Product, failure to adhere to any specifications or instructions, or failure resulting from neglect, abuse, accidents, or acts of nature are not covered under this warranty.

Warranty service may be obtained by delivering the Product to Sealevel and providing proof of purchase. Customer agrees to ensure the Product or assume the risk of loss or damage in transit, to prepay shipping charges to Sealevel, and to use the original shipping container or equivalent. Warranty is valid only for original purchaser and is not transferable.

This warranty applies to Sealevel manufactured Product. Product purchased through Sealevel but manufactured by a third party will retain the original manufacturer's warranty.

Non-Warranty Repair/Retest

Products returned due to damage or misuse and Products retested with no problem found are subject to repair/retest charges. A purchase order or credit card number and authorization must be provided in order to obtain an RMA (Return Merchandise Authorization) number prior to returning Product.

How to obtain an RMA (Return Merchandise Authorization)

If you need to return a product for warranty or non-warranty repair, you must first obtain an RMA number. Please contact Sealevel Systems, Inc. Technical Support for assistance:

Available	Monday – Friday, 8:00AM to 5:00PM EST
Phone	864-843-4343
Email	support@sealevel.com

Trademarks

Sealevel Systems, Incorporated acknowledges that all trademarks referenced in this manual are the service mark, trademark, or registered trademark of the respective company.