## ASEA POWER PANEL (APP) Touch-Screen Application

## **OPERATION MANUAL**



## P/N 604921-10 Rev. F For use with software Part Number 601200 v4.08, or better

January 7, 2016



# **Table of Contents**

1	ASEA POWER PANEL OVERVIEW	
	1.1 ASEA POWER PANEL DETAILS	
	1.1.1 SHORE POWER	
	1.1.2 SWITCHGEAR	7
2	POWER TRANSFERS	9
	2.1 TRANSFER DIALOG PANEL	9
	2.2 POWER TRANSFER SELECTIONS	
3	METER	
	3.1 SHORE POWER A.C. METER	
4	APP REMOTE INTERFACE CONNECTIONS	14
	4.1 RS-485	14
	4.2 RS-232C	15
	4.3 Communication Port Assignments	
5	Failed Device Communications	17
6	Dimensions	
7	I/O Outlets	
8	Procedure to disable screen save and hibernating option	



#### **1 ASEA POWER PANEL OVERVIEW**



## ASEA POWER PANEL CONTROLS & INDICATORS FIGURE 1

The ASEA Power Panel touch-screen application provides a simple, integrated, highvisibility graphical user interface for yacht power systems consisting of an ASEA Shore Power Converter set (one or two cabinet system) and two gensets.

The main Power Panel display is divided into three frames that group controls and indicators for **MASTER CONVERTER**, **SLAVE CONVERTER**, and **SWITCHGEAR**. The Switchgear frame includes an active mimic panel that graphically displays the ship's power bus in real-time as well as controls to pop-up a **Meter** or **Splash About** panel. Control for each power source is provided in a logical format. This operation manual provides details on each control, indicator and feature provided by the ASEA Power Panel.



## **1.1 ASEA POWER PANEL DETAILS**

## **1.1.1 SHORE POWER**

**Shore Power Controls and Indicators** 

Shore Powe	r Master	Shore Powe	r Slave	
1	453 Volts In	1	453 Volts In	
ONLINE	60 Hz In	ONLINE	60 Hz In	
0	Auto-Restart is OFF	0		
MASTE		SLAVE	CONVERTER	
1	111 Volts	1	111 Volts	
ONLINE	50 Hz	ONLINE	50 Hz	
0	40.7 %	0	40.7 %	
0	12.2 kW	0	12.2 kW	
Converter	Status K: Master	Converter	Status DK: Slave	

#### **Converter Input State**

When the converter input is off the output Online/Offline Control set is hidden. Press the ONLINE button to start the converter. A summary meter of dock power is always shown

Shore Powe	r Master	Shore Power Slave	
I OFFLINE O	453 Volts In 60 Hz In Auto-Restart is OFF	I 453 Volts In OFFLINE O	1
MAST	ER CONVERTER	SLAVE CONVERTER	
Converter	Status DK: Master	Converter Status OK: Slave	

Once the converter input is on the circuit-breaker/transfer control button set appears along with summary metering of converter output.



#### Shore Power Master Shore Power Slave 453 Volts In 453 Volts In Т Т 60 Hz In 60 Hz In ONLINE ONLINE Auto-Restart is ο 0 OFF MASTER CONVERTER SLAVE CONVERTER 111 Volts 111 Volts L 50 Hz 50 Hz FEI INF 40.7 % 40.7 % ο ο 12.2 kW 12.2 kW Converter Status Converter Status OK: Master OK: Slave

'I' ONLINE button will cause the TRANSFER DIALOG PANEL to pop-up.

Ship's Bus: DEAD		Close Transfer Dialog Panel	
Select Available Power Source t	o Transfer To:		
	Converter		

**'O' OFFLINE** button will immediately take the Converter offline. Circuit-breaker state is indicated as **ONLINE** or **OFFLINE**.

#### **Metering Summary**

**Converter Output State** 

#### **Converter Output Metering Summary**

Nominal Voltage is shown as True R.M.S. volts.

**Frequency** is indicated in Hertz (cycles-per-second).

Percent of Rated indicates worst-case loading as a percentage of capacity.

**Total Power** is the total power presently being supplied by the converter, a sum of all three phases shown in kilo-Watts. If there are two cabinets then this is the sum of both.



## Auto-Restart State Auto-Restart is OFF Press when converter output is on to turn on auto-restart feature.

If the converter output is not on then this button will momentarily read:

Converter Not Online

#### **Converter Status**

Converter Status	Converter Status
OK: Master	OK: Slave

The converter status will indicate any failure or out-of-limit condition described in the Converter's Operation Manual. Additionally, communication failure for this device will be identified here.



# **1.1.2 SWITCHGEAR**

## MIMIC PANEL



The Mimic Panel provides visual indication of:

SHORE Power Converter Input State (Green or Red) and Output State GEN #1 Engine State (Green or Red) and Circuit-Breaker State GEN #2 Engine State (Green or Red) and Circuit-Breaker State TIE-BREAKER Circuit-Breaker State

#### **Emergency Power OFF**



Immediately opens the shore power converter's input and output

contactors.

#### System Status Indicator

System Status
ALL SYSTEMS OK

A summary status indicator of all devices and

communications.

#### **Clear All Alarms**

Clear All Alarms

This button may be pressed at any time. If any alarms are present in the Shore Power Converter then they will all be cleared. Additionally, the ASEA Power Panel application will re-initialize its display and communications ports.



#### **Splash About**

Splash About

This button will display Asea Power Panel software version and part

#### number.





#### **2 POWER TRANSFERS**

#### 2.1 TRANSFER DIALOG PANEL

Pressing any Converter Output 'I' Online button will raise the Transfer Dialog Panel. All available seamless transfer choices from the present state of the ship's bus will be offered. Select any of the available power source options to transfer to by pressing the corresponding virtual button. The power transfer will then be initiated. Just above the Switchgear frame will appear the message: "**TRANSFER IN PROGRESS**" indicating the seamless transfer request is being processed.

	urce to Transfer To:		
Generator #1			
Generator #2			
OK: Master	OK	Slave	
ore musice	Ship's Bus: SHORE F	POWER CONVERTER	
Inlet#1	iniet#2	GEN #1 GEI	1#2
	<b>4</b>		-
t SHORE	SHORE		Power OFF
	Generator #1 Generator #2 OK: Master	Generator #1 Generator #2 OK: Master OK Ship's Bus: SHORE F	Generator #1 Generator #2 OK: Master OK: Slave Ship's Bus: SHORE POWER CONVERTER GEN #1 GEN

The Transfer Dialog Panel may be closed without selecting a power transfer by pressing

#### Close Transfer Dialog Panel

the button. Otherwise, once a transfer has been selected the Transfer Dialog Panel will automatically close.



## 2.2 POWER TRANSFER SELECTIONS



Selection will invoke a seamless transfer to the selected bus state from the present bus state. Power source must be in the ready state (i.e. converter input must be on to select converter to come online, generator must be running to select that particular generator) for the selection to appear as an "Available Power Source to Transfer To."







When transfer is completed, the MIMIC panel shows power source



LETHAL VOLTAGES WILL BE AUTOMATICALLY ROUTED THROUGHOUT THE VESSEL DURING POWER TRANSFERS AND/OR OUTPUT CIRCUIT-BREAKER DEAD-BUS CLOSURES AS A RESULT OF TOUCH-SCREEN INITIATED CONTROL.



#### 3 METER



Display the Meter by pressing the Meter Panel button on the SWITCHGEAR frame. This button will toggle to Power Panel while the meter panel is displayed





## 3.1 SHORE POWER A.C. METER

Shore Power #1       60 Hz       Shore Power #2       60 Hz         ØA-B       ØB-C       ØC-A       ØA-B       ØB-C       ØC-A         453 Volts       454 Volts       453 Volts       453 Volts       453 Volts       453 Volts       453 Volts       453 Volts         9.8 A         Converter #1 Output       50 Hz       Converter #2 Output       50 Hz       Converter #2 Output       50 Hz         ØA       ØB       ØC       ØA       ØB       ØC         111 V       112 V       113 V       111 V       112 V       113 V         36 1 A       36 2 A       36 3 A       36 1 A       36 2 A       36 3 A	Master Co	onverter Met	ter		-Slave Con	verter Met	er — — —
ØA-B         ØB-C         ØC-A         ØA-B         ØB-C         ØC-A           453 Volts         454 Volts         453 Volts         454 Volts         453 Volts         450 H         450 H	Shore Powe	er #1	60 Hz		Shore Pow	er #2	60 Hz
9.8 A         Converter #1 Output       50 Hz       Converter #2 Output       50 Hz         ØA       ØB       ØC       ØA       ØB       ØC         111 V       112 V       113 V       111 V       112 V       113 V         36 1 A       36 2 A       36 3 A       36 1 A       36 2 A       36 3 A	ØA-B 453 Volts	ØB-C 454 Volts	ØC-A 453 Volts		ØA-B 453 Volts	ØB-C 454 Volts	ØC-A 453 Volts
Converter #1 Output         50 Hz         Converter #2 Output         50 Hz           ØA         ØB         ØC         ØA         ØB         ØC           111 V         112 V         113 V          111 V         112 V         113 V           36 1 A         36 2 A         36 3 A         36 1 A         36 2 A         36 3 A	9.8 A	9.8 A	9.8 A		9.8 A	9.8 A	9.8 A
ØA         ØB         ØC         ØA         ØB         ØC           111 V         112 V         113 V          111 V         112 V         113 V           36 1 A         36 2 A         36 3 A         36 1 A         36 2 A         36 3 A	Converter #	1 Output	50 Hz		Converter ‡	#2 Output	50 Hz
111 V         112 V         113 V          111 V         112 V         113 V           36 1 A         36 2 A         36 3 A         36 1 A         36 2 A         36 3 A	ØA	ØB	ØC		ØA	ØB	ØC
36.1 A 36.2 A 36.3 A 36.1 A 36.2 A 36.3 A	111 V	112 V	113 V		111 V	112 V	113 V
	36.1 A	36.2 A	36.3 A		36.1 A	36.2 A	36.3 A
4 kW 4.1 kW 4.1 kW 4.1 kW 4.1 kW 4.1 kW	4 k₩	4.1 k₩	4.1 k₩		4 k₩	4.1 kW	4.1 k₩
7% 8% 8% 7% 8% 8%	7 %	8 %	8 %		7%	8%	8%
Total Power: 12.2 kW Total Power: 12.2 kW	Total	l Power:12.2	kW		Total	Power:12.	2 kW

Shore Power Metering is indicated on the top.

**Voltage** for each phase is shown as True R.M.S. line-to-line voltages. **Current** for each phase is shown as True R.M.S. amps.

**Frequency** indicated in Hertz (cycles-per-second).

Shore Power Converter Output Metering is indicated on the lower part of frame.

Voltage for each phase is shown as True R.M.S. voltages.

Current for each phase is shown as True R.M.S. amps.

Power for each phase is shown in kilo-Watts.

Percent of Rated indicates loading as a percentage of capacity.

Frequency indicated in Hertz (cycles-per-second).

**Total Power** is the total power presently being supplied by the generator, a sum of all three phases shown in kilo-Watts.



#### **4** APP REMOTE INTERFACE CONNECTIONS

#### 4.1 RS-485

The APP can be controlled remotely through the use of its RS-485 interface. The RS-485 serial port connector on the APP is a DE9S (female, 9-pin D-subminiature connector). The pin out of the connector is standard for an RS-485.



RS-485 Parameters Baud: 19200



#### 4.2 RS-232C

The APP can be controlled remotely through the use of its RS-232C interface. The RS-232C serial port connector on the APP is a DE9S (female, 9-pin D-subminiature connector). The pinout of the connector is standard for an RS-232C DCE (Data Communication Device). The figure below details cable requirements for connecting either from a DTE (Data Terminal Device) such as is the ad hoc standard for PC (personal computers) or from another DCE device. The DCE to DTE interface requires a 'straight-through' cable while a DCE to DCE interface requires a 'null-modem' type cable. Use of a shielded, jacketed, four-wire (two twisted pairs), color-coded cable for each APP is required.

The RS-232C serial ports are located on the bottom-back of the APP. Baud rate default is 19200.

<u>RS-232 Parameters</u> Baud: 19200 8-Data bits, 1 Start, 1 Stop Parity: None Handshaking: None





## 4.3 Communication Port Assignments

The ASEA Power Panel application is running on an AXIOMTEK Touch-screen Panel PC's use the following port assignments:

For RS-485 communication mode Single converter: COM 1: RS-485 or COM 2: RS-232C

Dual converter: COM 1: RS-485 multidrop

Or for RS-232C communication mode COM 1: Shore Power Converter Master Cabinet COM 2: Shore Power Converter Slave Cabinet

All serial cables required are the straight-through (1:1) type.



#### **5** Failed Device Communications

Failed serial communications will be indicated in the System Status indicator and the specific device Status indicator. All data and state indicators will gray and blank.





## 6 Dimensions









## 7 I/O Outlets



No	Function	No	Function
1	POWER SWITCH (ATX)	5	COM2 (RS-232)
2	Power Input connector (Phoenix)	6	Ethernet(RJ-45)
З	Power Input connector (Screw)	7	Dual USB 2.0 ports
4	COM 1 (RS-232/422/485)	8	AUDIO (LINE-OUT)



#### 8 Procedure to disable screen save and hibernating option

1) Click start button and select Control Panel"



2) Click "Appearance and Personalization"





3) Click "Change screen saver" in "Personalization" section





4) Click "Change power settings"

Screen Saver Settings	
Screen Saver	
Screen saver (None)	Settings
	initiates on resume, display logon screen
Power management Conserve energy or brightness and othe <u>Change power settir</u>	maximize performance by adjusting display r power settings. 1 <u>gs</u>
	OK Cancel Apply

5) Click "Change plan settings" in "Balanced (recommended)" option

	N. Louis Discounted		×
0	🕞 🗢 😼 🕨 Control Panel 🕨	Hardware and Sound > Power Options - 47 Search Control Panel	Q
	Control Panel Home	Select a power plan	0
	Require a password on wakeup Choose what the power buttons do	Power plans can help you maximize your computer's performance or conserve energy. Make a plan act by selecting it, or choose a plan and customize it by changing its power settings. <u>Tell me more about pr plans</u>	ive ower
•	Create a power plan	Preferred plans	
	Choose when to turn off the	Balanced (recommended) <u>Change plan settings</u>	i.
	display	Automatically balances performance with energy consumption on capable hardware.	
0	Change when the computer sleeps	Power saver     Change plan settings	5
	sicep:	Saves energy by reducing your computer's performance where possible.	
		Show additional plans	$\bigcirc$
	See also	Change settings that are currently unavailable	
	Personalization		
	Windows Mobility Center		
	User Accounts	Screen brightness: 🧿 👘	



6) Click "Change settings that are currently unavailable"

Change settings for the p	lan: Balanced				
Choose the sleep and display set	tings that you want your o	computer to use.			
🛞 Change settings that are curr	ently unavailable				
Oim the display:	5 minutes	*			
🔛 Turn off the display:	10 minutes	Ŧ			
9 Put the computer to sleep:	Never	*			
🔆 Adjust plan brightness:	•	×.			
Change advanced power settings	5				
	Choose the sleep and display set Change settings that are curr Dim the display: Turn off the display: Put the computer to sleep: Adjust plan brightness: Change advanced power settings	Choose the sleep and display settings that you want your Change settings that are currently unavailable  Dim the display: S minutes  Turn off the display: 10 minutes  Put the computer to sleep: Never  Adjust plan brightness: Change advanced power settings	Choose the sleep and display settings that you want your computer to use. Change settings that are currently unavailable Dim the display: Turn off the display: Turn off the display: Dut the computer to sleep: Never Adjust plan brightness: Change advanced power settings	Choose the sleep and display settings that you want your computer to use.  Change settings that are currently unavailable  Dim the display: S minutes Turn off the display: 10 minutes  Put the computer to sleep: Never  Adjust plan brightness: Change advanced power settings	Choose the sleep and display settings that you want your computer to use.  Change settings that are currently unavailable  Dim the display: Turn off the display: Turn off the display: Turn off the display: Turn off the display: Change advanced power settings

7) Click the box of "Dim the display:" and select "Never"

🖉 🗣 « Ha	rdware and Sound   Power O	ptions 🕨 Edit Plan Settin	gs	▼   <del>* y</del>	Search Control Pane	d .
Ch	ange settings for the pl	an: Balanced				
Ch	oose the sleep and display setti	ngs that you want your co	mputer to use.			
0	Dim the display:	5 minutes	•			
<b></b>	Turn off the display:	1 minute 2 minutes 3 minutes	1			
9	Put the computer to sleep:	5 minutes 10 minutes 15 minutes 20 minutes				
×	Adjust plan brightness:	25 minutes 30 minutes 45 minutes				
Ch	ange advanced power settings	1 hour 2 hours 3 hours				
Re	tore default settings for this pla	5 hours Never				



8) Click the box of "Turn off the display:" and select "Never"

4

Se Se K Hardware and Sound & Power	Ontions > Edit Plan Settings	- 44	Search Control Panel	
a that wate and sound a power	options v cut rian settings	• •7	Search Control Pariet	
Change settings for the p	lan: Balanced			
Choose the sleep and display set	tings that you want your computer	to use.		
O Dim the display:	Never			
<u> </u>	here			
Turn off the displace	10			
Turn on the display:	10 minutes			
	1 minute			
Put the computer to sleep:	2 minutes			
	5 minutes			
· · · · · · · · · · · · · · · · · · ·	10 minutes			
Adjust plan brightness:	15 minutes			
	20 minutes			
	25 minutes			
	30 minutes			
Change advanced power settings	45 minutes			
Destand defends antices for this of	1 hour			
Restore default settings for this p	2 hours			
	Abours			
	5 hours	Save	hanges Cancel	
	Never			

9) Click "Change advanced power settings"





10) Click "Change settings that are currently unavailable"

Power Options
Advanced settings
Select the power plan that you want to customize, and then choose settings that reflect how you want your computer to manage power.
Balanced [Active]
<ul> <li>Balanced</li> <li>Require a password on wakeup</li> <li>Setting: No</li> <li>Hard disk</li> <li>Desktop background settings</li> <li>Wireless Adapter Settings</li> <li>Sleep</li> <li>USB settings</li> <li>Power buttons and lid</li> <li>PCI Express</li> <li>Drocerror power management</li> </ul>
Restore plan defaults
OK Cancel Apply



11) Click "Sleep", then click "sleep after" and check if it set to "Never". Click "Allow hybrid sleep" and check if it is set to "Off". Click "Hibernate after" and check if it is to "Never" if not change the value to "0" and click "Allow wake timers", then the value for the "Hibernate after should have changed to "Never". Check if the "Allow wake timers" is set to "Disable"





12) Scroll down and click "Display" and click "Dim display after" and change its value to "0", change the value of "Turn off display after" to "0".

Power Options					
Advanced settings					
Select the power plan that you want to customize, and then choose settings that reflect how you want your computer to manage power.					
Balanced [Active]					
<ul> <li>Processor power management</li> <li>Display</li> <li>Dim display after</li> <li>Setting (Minutes): </li> </ul>					
Turn off display after Setting: 10 Minutes					
<ul> <li>□ Display brightness</li> <li>Setting: 100%</li> <li>□ Dimmed display brightness</li> <li>Setting: 20%</li> </ul>					
Multimedia settings					
<u>R</u> estore plan defaults					
OK Cancel Apply					
Power Options					
Advanced settings					
Select the power plan that you want to customize, and then choose settings that reflect how you want your computer to manage power.					
Balanced [Active]					
Processor power management					
Display     Display					
Setting: 0 Minutes					
Turn off display after					
Setting (Minutes): 0					
Display brightness     Setting: 100%					
Dimmed display brightness					
Setting: 30%					
T Multimedia settings					
Restore plan defaults					

13) Click "Apply" button to apply all the changes, and then click "OK" button.



## 14) Click "Save changes" button

Change settings for the plan: Balanced					
Choose the sidep and display sett	ings that you want your computer to	o use.			
O Dim the display:	Never •				
i urn off the display:	Never				
Put the computer to sleep:	Never •				
🍯 Adjust plan brightness:	o 💥				
Change advanced nower settings					
Provide advanced power settings					

#### 15) Click "X" to close the "Control Panel"





Screen Saver Settings		x
Screen Saver Screen Saver (None) Wait: 1 n Power management Conserve energy or brightness and othe Change power settin	Settings         Preview         ninutes       On resume, display logon screen         maximize performance by adjusting display r power settings.	
	OK Cancel Ap	ply

16) Click "OK" to close "Screen Saver Settings" window





LETHAL VOLTAGES WILL BE AUTOMATICALLY ROUTED THROUGHOUT THE VESSEL UNDER CONTROL OF THIS SOFTWARE, BY DESIGN. PLEASE USE CARE.

-END OF APP OPERATION MANUAL-

