Newmar E-Plex Control Users Manual

Introduction

The E-Plex control system consists of one major component and many sub-components. The major component is known as the “Clock”. It houses the microprocessor control, a touch screen operator interface with display, and the multiplexing communications bus.

The clock microprocessor control along with the program memory performs the actual command and control processes for the system.

The remainder of the E-Plex system consists of control, monitoring, display, and combination modules that are connected to the multiplexing bus. These modules execute the control commands from the clock and report their status back to the clock, as well as to the other modules on the network.

The control modules are used to turn on and off various devices, like water pumps, lights, etc.

The monitoring modules are used to report the status of environmental and mechanical conditions such as air temperature, tank levels, electrical loads, on or off statuses, etc.

The display modules are the various touch screen displays that are available with the E-Plex system.

The combination modules are just as the name implies. They combine certain functions of the various modules into a single module. There are combination modules such as the dual relay input module that combines two relay outputs for on/off control with four inputs for status monitoring. There are also combination modules that are made up of touch screen push button control with a small display window such as the tank bay display panel.

Normal Operation

During normal operation the user will generally be operating either the system clock, one of the touch screen display modules, or some type of switch panel.

The clock and touch screen controls have many different operations screens which can be selected by pressing the various buttons surrounding the display window on the clock or on the touch screen display. These screens are made up of six main categories. The categories include Inverter Control, Energy Management, Tank Status, Climate Control, Auto Generator Control, and Screen Lighting as shown on the clock face overlay. See the following for examples of the various types of screens:
Clock Face Overlay

Inverter Control Screens
Energy Management Screens

Tank Status Screens
Climate Control Screens

Generator Control Screens
Screen Lighting Night Mode (Display Dimmed)
Control Functions

Inverter Control

**INV CTRL**
Pressing the clock button labeled “INV CTRL” will display the initial inverter control functions.

*User Selectable Settings*
Inverter On / Off: Controls the inverter-charger that “inverts” the 12VDC coach battery power to 120VAC. This 120VAC power can be used to power various appliances throughout the coach.

**Page Status Display**

<table>
<thead>
<tr>
<th>INVERTER: ON/OFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHARGER: ON/OFF</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DC AMPS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC VOLTS:</td>
</tr>
<tr>
<td>CHARGER STATUS: (Displays Data from Charger)</td>
</tr>
</tbody>
</table>

CHRG CTRL

Pressing the clock button labeled “CHRG CTRL” will display the initial charger control functions.

*User Selectable Settings*
CHARGER ON/OFF: Controls the battery charger function that “charges” the 12VDC coach batteries.

**Page Status Display**

<table>
<thead>
<tr>
<th>INVERTER: ON/OFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHARGER: ON/OFF</td>
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</tbody>
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<td>CHARGER STATUS: (Displays Data from Charger)</td>
</tr>
</tbody>
</table>
**PWR SH**
Pressing the clock button labeled “PWR SH” will display the Shore Power control functions.

**User Selectable Settings**
SHORE POWER: 50, 30, 20, 15, and 5 Amp Service
SEARCH WATTS: 50, 30, 20, 15, and 5 Watts Capacity

**Page Status Display**
| SHORE POWER: (Selected Amps) |
| SEARCH WATTS: (Selected Watts) |
| FAULTS: (Displays Fault Data) |

**PREF**
Pressing the clock button labeled “PREF” will initially display the same page as the “PWR SH” button. Pressing and holding the “PREF” button for 5 seconds will display the battery set-up function pages. The second page is accessed by use of the left most set of up/down arrows.

**User Selectable Settings**
Note: Verify all Battery Specifications before making any changes to these pages!

**EQUALIZE**
BATTERY TYPE: AGM, GEL CELL, or LEAD ACID
BATTERY SIZE: 200, 400, 600, 800, or 1000 AH
CHARGE AMPS: 10, 20, 30, 40, 50, 60, 70, 80, 90, or 100%
BATT. CUTOUT: Minimum Voltage level that will keep the DC battery power active.
VAC CUTOUT: Minimum Voltage level that will keep the AC power active.

**Page Status Display**
| BATT. TEMP: Displays the battery temperature. |

**Inverter Control**

**50/30/20**
Pressing the clock button labeled “50/30/20” will initially display the Energy Management control functions page. Pressing this button again after the page is displayed scrolls between the current settings.

**User Selectable Settings**
MANAGE: 20A, 30A, or 50A (Selects the available Shore Power Current Capacity)

**Page Status Display**
- POWER: (Displays the AC power source.)
- EMS: ON/OFF (Displays the Energy Management System Status.)
- VAC L1 L2 (Displays the Voltage for both of the AC power legs.)
- AAC L1 L2 (Displays the Amperage for both of the AC power legs.)
- HZ (Displays the Line Frequency for the AC power source.)

MANAGE: 20A, 30A, or 50A (Displays the selected power setting to manage.)

**ENERGY CTRL**
Pressing the clock button labeled “ENERGY CTRL” will initially display the same page as the “50/30/20” clock button. Pressing the button again after the page is displayed will toggle the Energy Management System power setting between on and off.

**User Selectable Settings**
- EMS: ON/OFF (Toggles the Energy Management System setting between on and off.)

**Page Status Display**
- POWER: (Displays the AC power source.)
- EMS: ON/OFF (Displays the Energy Management System Status.)
- VAC L1 L2 (Displays the Voltage for both of the AC power legs.)
- AAC L1 L2 (Displays the Amperage for both of the AC power legs.)
- HZ (Displays the Line Frequency for the AC power source.)

MANAGE: 20A, 30A, or 50A (Displays the selected power setting to manage.)

**LOADS**
Pressing the clock button labeled “LOADS” will select the Energy Management Load Shedding page. This page displays the status of the AC loads that are capable of being shed when the amperage exceeds the selected settings.

**User Selectable Settings**
- NONE

**Page Status Display**
- BLOCK HTR: OFF, ENABL, or SHED (Block Heater Load Status)
- WATER HTR: OFF, ENABL, or SHED (Water Heater Load Status)
- A/C 1: OFF, ON, or SHED (Air Conditioner #1 Load Status)
- A/C 2: OFF, ON, or SHED (Air Conditioner #2 Load Status)
- A/C 3: OFF, ON, or SHED (Air Conditioner #3 Load Status)