# OP7
# User Guide

Rev 1.04

Thank you for choosing our company and product for your facility.
We suggest that you read this entire guide before using your new control system.


**If you need help or have questions,
please feel free to contact us at the email address below:**


**support@RobeyControls.com**


or see our website at:

**www.RobeyControls.com**


This document reflects the OP7 using project:

# Version 1.04+


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USA

# Table of Contents

*- Start-up splash screen*

The OP7 system starts by showing the manufacturer's contact information., and version numbers for the touch-panel and control hardware:

Manufacturer contact information

Email address for support



Version for the OP7 Touch-panel

Version for the PLC machine control

## - Touch-sensitive display, selecting a carrier

The OP7 user-interface is an operator panel used for controlling the carousel. It also provides helpful feedback on the machine's operating status.

The display it touch-sensitive, and can to touched with your finger or a soft probe. **Never use a sharp object like a screw-driver or a pen to press on the touch-panel – you may destroy it!**

This is the actual shelf level at the access position in the carousel. When red, the shelf level is not on the target stop sensor

This area shows the "Goto" carrier and optional Position numbers



The System Information Panel (SIP) will graphically show the status of the machine, to help guide the operator through recovering from the various interruptions that can occur while operating the machine.

Press Enter after inputting the desired carrier/position number. The carousel will then drive to the location in the display field.

*- Keypad (normal buttons)*

The keypad has a typical numeric keypad layout with keys 0-9 used to select the "Goto" carrier.  The Enter key confirms the entry when completed, and the editing keys DELETE and BACK-SPACE can be used to adjust entries.

Two special keys are included, SETTINGS which provides access to a group of machine setup parameters and HELP which provides useful information in English text for error messages and other conditions.

GOTO Carrier

Optional Position

SETUP Menu

QWERTY Keyboard for P/N Server

HELP

**1208**

DELETE field

P/N

Part Number entry mode.

This button toggles between CAR/POS and P/N entry.

Note: The **P/N Server** option is required

BACK SPACE

7   8   9   ×

4   5   6   ◀

ENTER

1   2   3

Numeric keypad 0-9

0   ▲   ▼   ✓

RUN UP

RUN DOWN
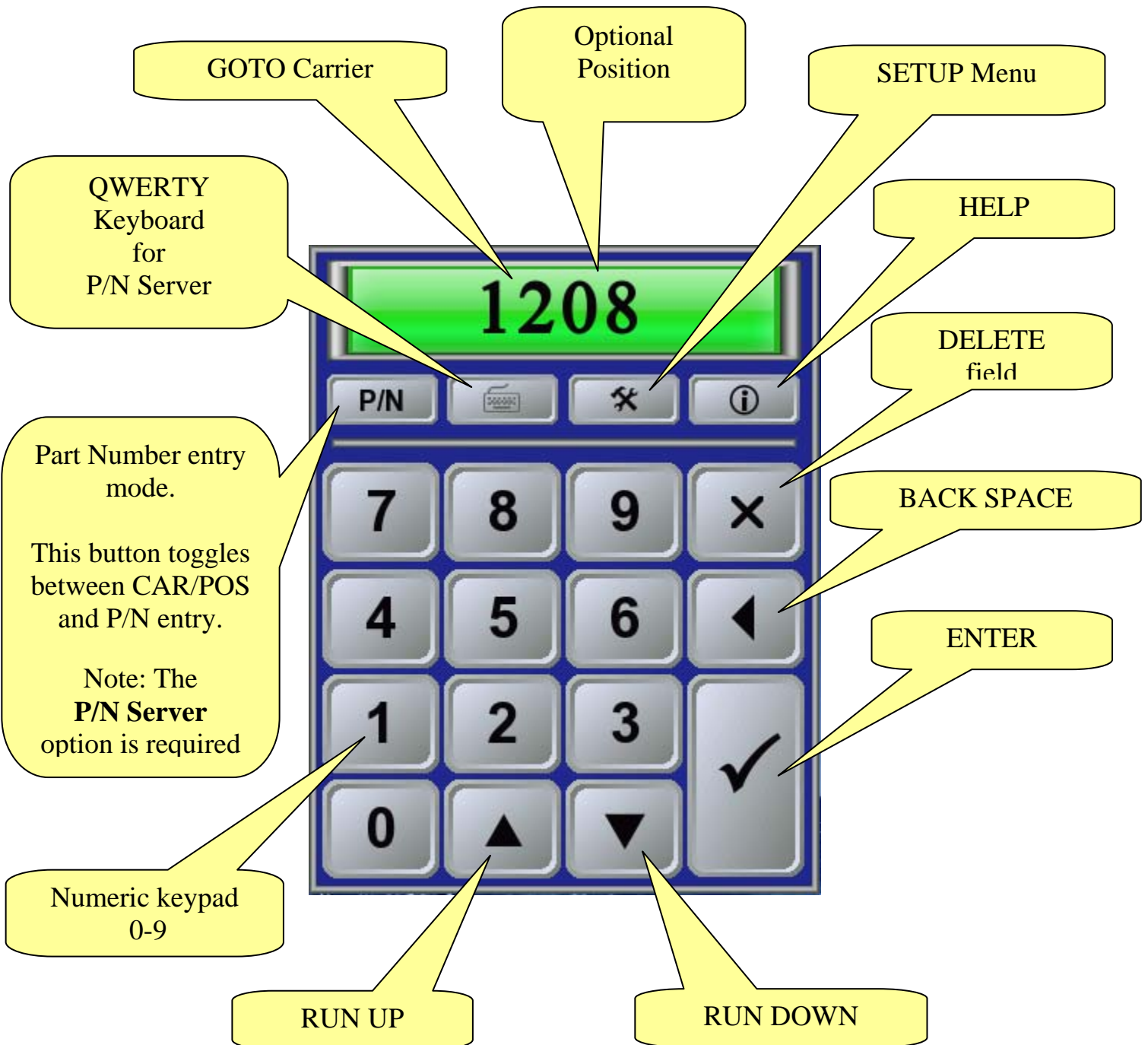
## - *Keypad (alternate buttons)*

The keypad alternates some of the keys on the keypad while moving to a location, as shown below:



'0' Button changes to STOP while running, in case you want to interrupt the move command.

The Abort button shows when the machine is stopped in a safety interruption. You can cancel the move instead of restarting.

The Enter button changes to RESTART when it is safe to restart the machine

Part Number entry mode.

This button toggles between CAR/POS and P/N entry.

Note: The **P/N Server** option is required.
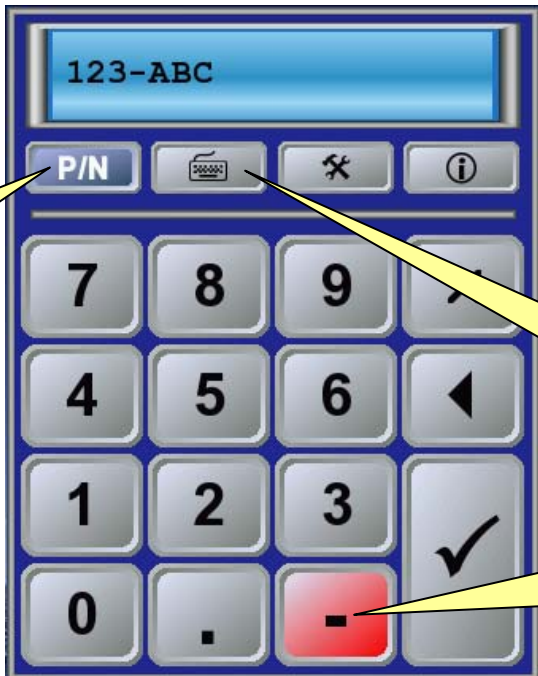
The QWERTY keypad popup is enabled when in P/N entry mode

The UP and DOWN buttons change when in the P/N entry mode

*- Alphanumeric QWERTY pop-up keypad*

The ESC button closes the QWERTY keypad window without confirming the entry.

Pressing the keypad button opens and closes a full QWERTY style alphanumeric keyboard.

123-ABC

P/N

ESC ! @ # $ % ^ & * ( ) BACK

+ _ Q W E R T Y U I O P CLR

Caps A S D F G H J K L Enter

~ ? Z X C V B N M : { }

= < "

The Caps button alternates between upper and lower case letters, and also provides access to numbers and other characters.

The Enter button closes the QWERTY keypad and confirms the entry.

ESC 2 3 4 5 6 7 8 9 0 BACK

+ q w e r t y u i o p CLR

Caps a s d f g h j k l Enter

` \ / z x c v b n m ; [ ]

= . , '

*- Keypad (Selecting a carrier number / position)*

The keypad has two basic operating modes: Carrier entry or Carrier+Position entry. The different modes are configured in the SETUP menu.
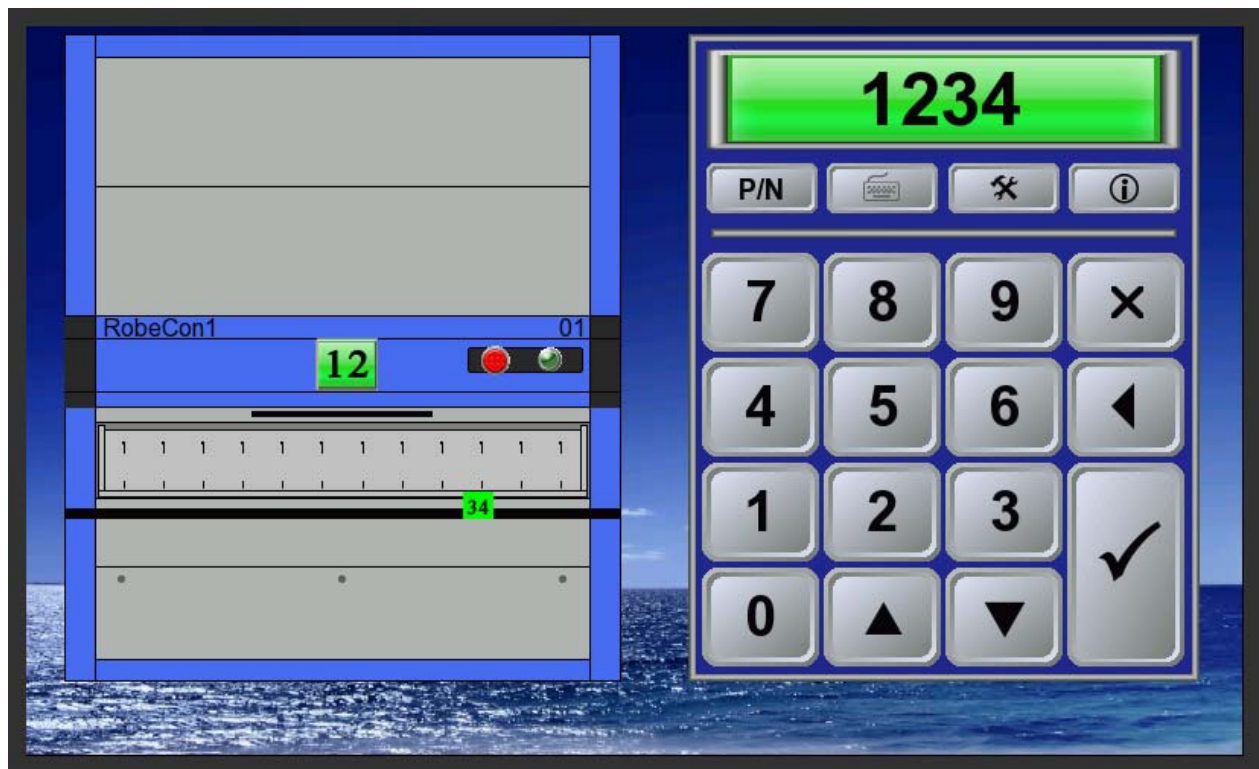
- o **Carrier Entry:**

    Using the number keys 0-9, enter a 1- or 2-digit carrier (level).

    1 = Drive to Carrier 1
    23 = Drive to Carrier 23

- o **Carrier + Position Entry:**

    Using the number keys 0-9, enter a 1- or 2-digit carrier (level) followed by a 2-digit position.

    1 = Drive to Carrier 1
    12 = Drive to Carrier 12
    123 = Drive to Carrier 1 and show Position 23
    1234 = Drive to Carrier 12 and show Position 34



The operating mode selection (Carrier verses Carrier+Position mode) is selected in the SETUP – DISPLAY menu area.

*- Keypad (Jogging)*

The keypad can be used with the UP and DOWN arrow keys to manually rotate the machine.  Pressing UP moves the carousel forward and DOWN reverse.  While running in this mode, the display will show the next possible stop position based on the machine's position and rotation speed.  Use this to determine when to release the arrow button.

Next Stop level

20

| P/N | ⌨ | ✴ | ⓘ |

| 7 | 8 | 9 | ✕ |
| 4 | 5 | 6 | ◀ |
| 1 | 2 | 3 | ✓ |
| 0 | ▲ | ▼ | |

The UP and DOWN keys are used to index the machine up and down.  When released, the machine will stop at the next defined stop level.

## - *Keypad (external numeric keypad option)*

The OP7 can be used with an external USB style numeric keypad, typically placed beside the main display. This keypad provides traditional buttons with the tactile feedback like traditional computer keypads, and may allow faster entry of the carrier select information verses using the (more fragile) touch-panel. It can be used along-side the primary OP7 touch-panel as an alternate input keypad.



Note: Since this component is a low-cost and off-the-shelf keypad, many of the keys are not supported. The only keys supported include the numeric keypad 0-9 and the Enter key. All others will be ignored by the system, as it is intended to be used for entry of the "Goto" carrier number, or Carrier+Position only.

If the keypad seems to be non-responsive, try pressing the Num-Lock button. The keypad must be in NUMBER input mode.

## - *Keypad (external alphanumeric keypad option)*

The OP7 can be used with an external USB style alphanumeric keypad, typically placed beside the main display.  This keypad provides traditional buttons with the tactile feedback like traditional computer keypads, and may allow faster entry of the carrier select information verses using the (more fragile and smaller) touch-panel.  It can be used along-side the primary OP7 touch-panel as an alternate input keypad, in addition to the main touch-panel keypad.
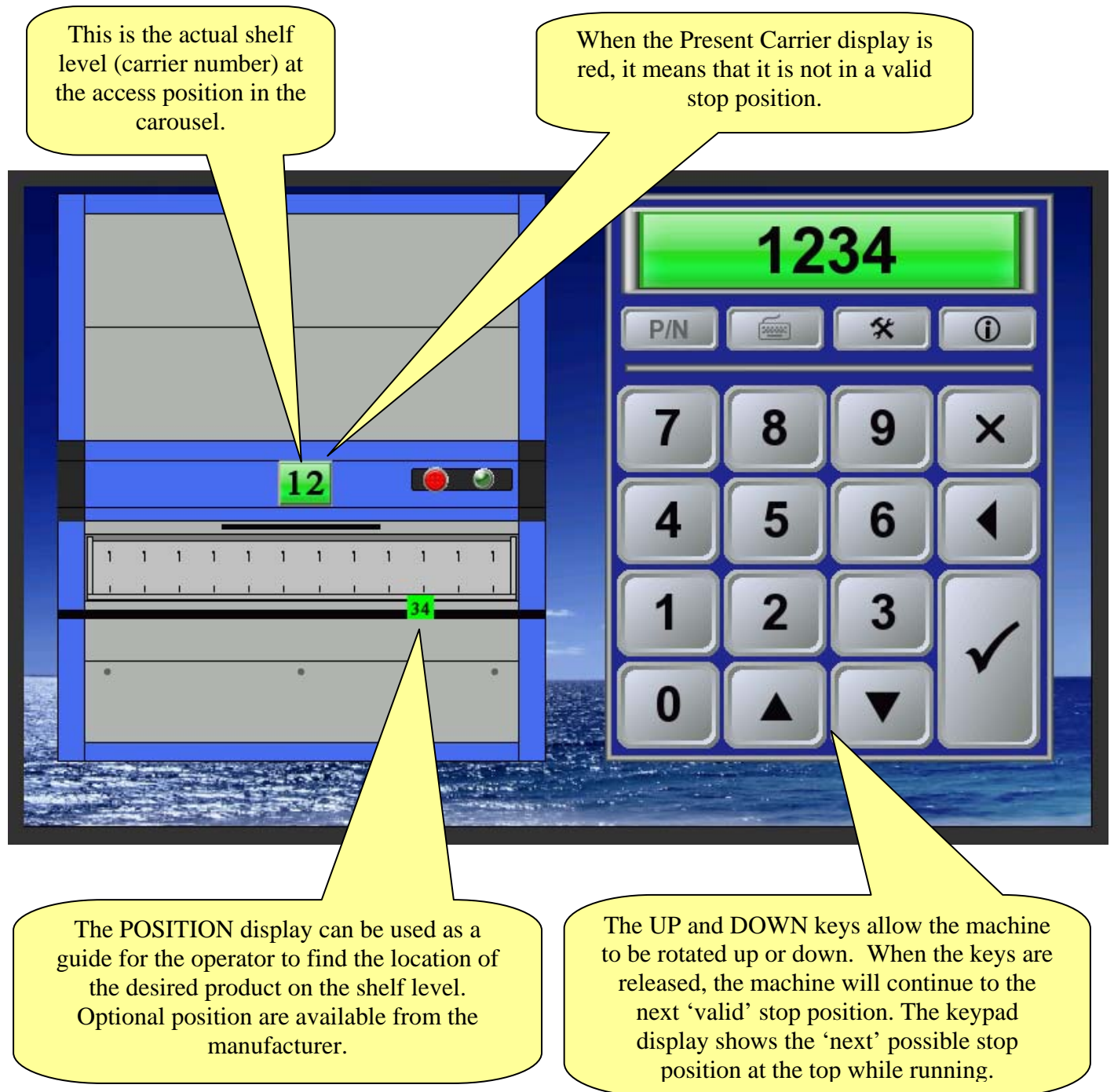
This alphanumeric keypad option is very helpful when using the P/N Server option to enter alphanumeric part numbers.



Note: Since this component is a low-cost and off-the-shelf keypad, many of the keys are not supported.

*- Present carrier display, Position display, valid carrier, UP / DOWN keys*

The display reports the operating status of the machine in various ways. The 'Present' carrier level is shown on the left; the display is green when the carrier is in a valid stop position. Error code numbers and text descriptions are shown near the bottom of the screen.

This is the actual shelf level (carrier number) at the access position in the carousel.

When the Present Carrier display is red, it means that it is not in a valid stop position.

1234

P/N

7  8  9  ✕

4  5  6  ◀

1  2  3

0  ▲  ▼  ✓

12

34

The POSITION display can be used as a guide for the operator to find the location of the desired product on the shelf level. Optional position are available from the manufacturer.

The UP and DOWN keys allow the machine to be rotated up or down. When the keys are released, the machine will continue to the next 'valid' stop position. The keypad display shows the 'next' possible stop position at the top while running.

*- SETUP access button and Present Error display location (messages with red background)*

Error code numbers and text descriptions are always shown near the bottom of the screen, and accessing the 'Setup' menu is accomplished via the 'Setup' button.

This 'Setup' button allows access to the service and system setup menus. Some areas, including the machine sensitive parts, are blocked by a password and intended only for trained technicians.



Service Access Panel Open

132: Access Panel
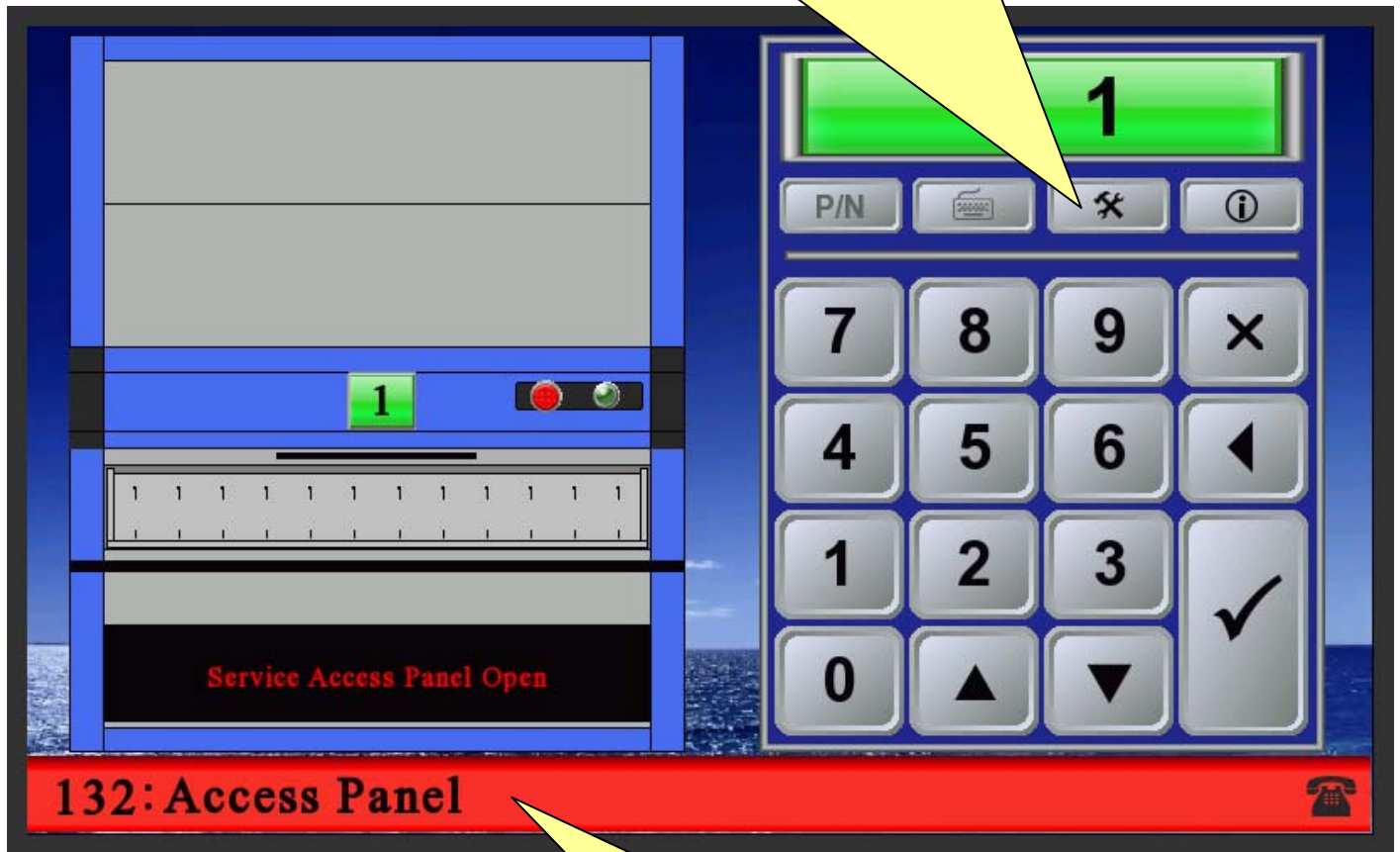
This area shows system error information. A table with all the possible errors can be found in the appendix of this manual.

*- System prompts (messages with green backgrounds)*

The display may occasionally show various message prompts at the bottom, in the same area as the error messages previously defined. These system "prompts" will appear with green backgrounds and contain instructions for the operator. The messages are not defined in this manual, as they are continually changing and outside the scope of this document.



Special system prompts may appear here to provide guidance for the operator. These prompts are shown with a green background, whereas the error messages are shown in red.

*- Dealer contact information*

When error messages are showing, the telephone icon is used to show the dealer contact information so you can call for service if necessary.



The telephone button pops-up the servicing dealer's contact information.

***- HELP button ( i )***

Help information is available by pressing the (i) key.

The HELP button provides help information on the system operating conditions.



132: Access Panel



System status: **132**

*Access Panel*

The lower Service Access Panel is open or not proplery closed.

Close and latch the panel securely. Check the three turn-latches at the top of the panel.

If the problem persists, call maintenance

132: Access Panel
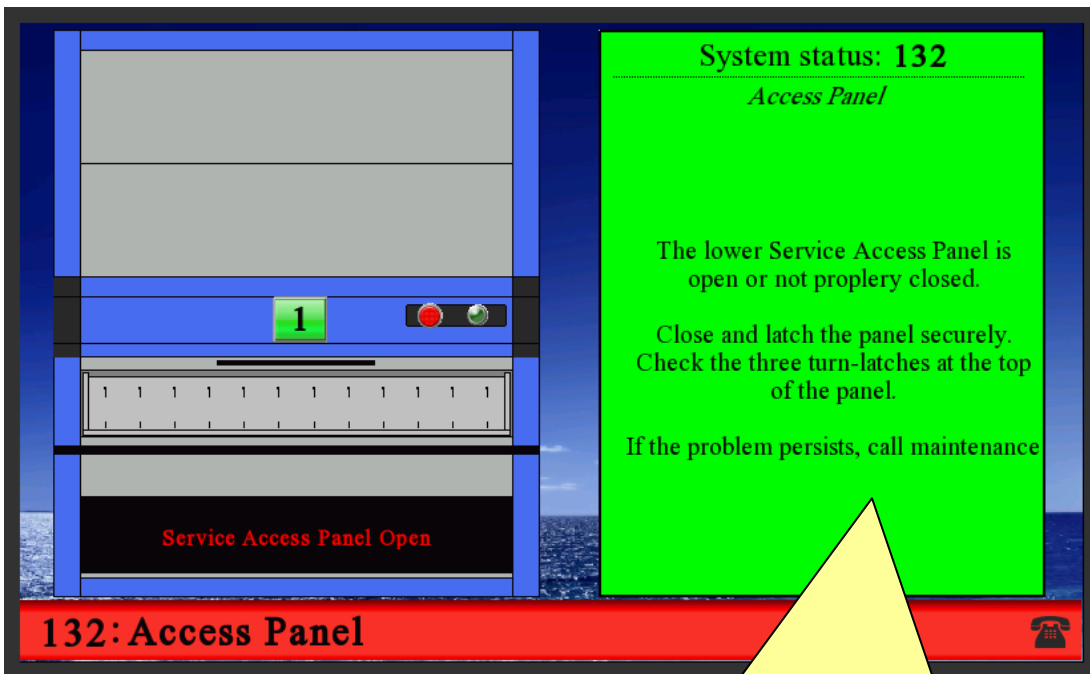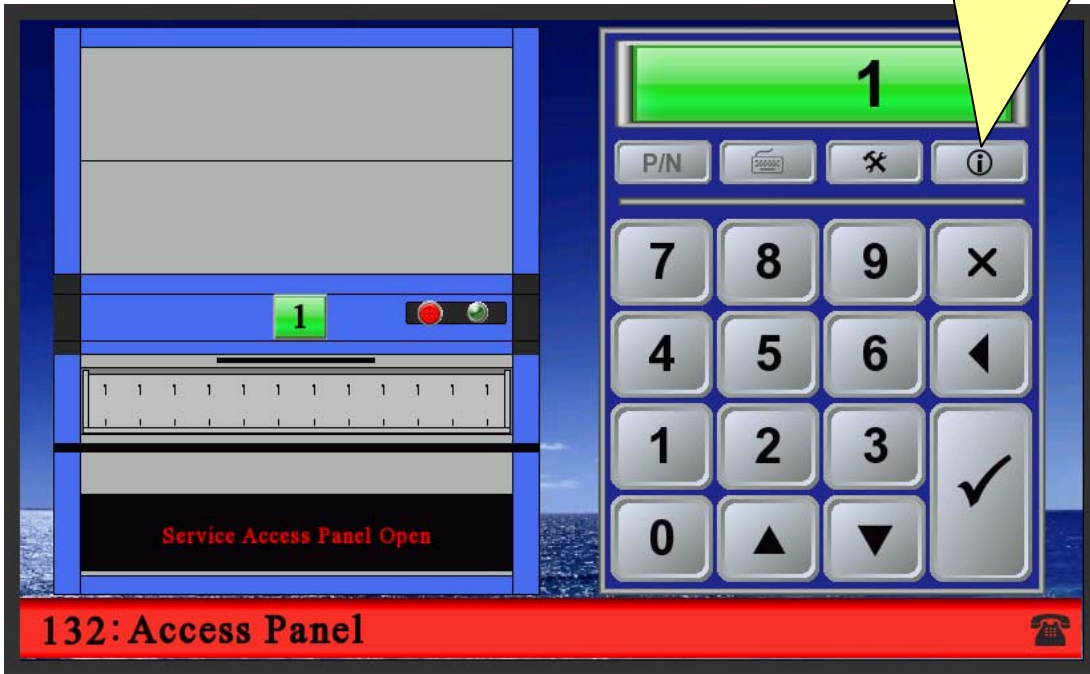
To close the Help dialogue box, just press it (the green area) and it will return to the previous page display.

## - *Present and Interrupted by error displays*

The present error is shown at the bottom of the screen. If the machine is interrupted while rotating, it will provide a pop-up information box showing the reason for the interruption. Note that the two errors could be the same, or different. For example, the photocell may have caused the machine to stop but the EStop button could presently be pressed.
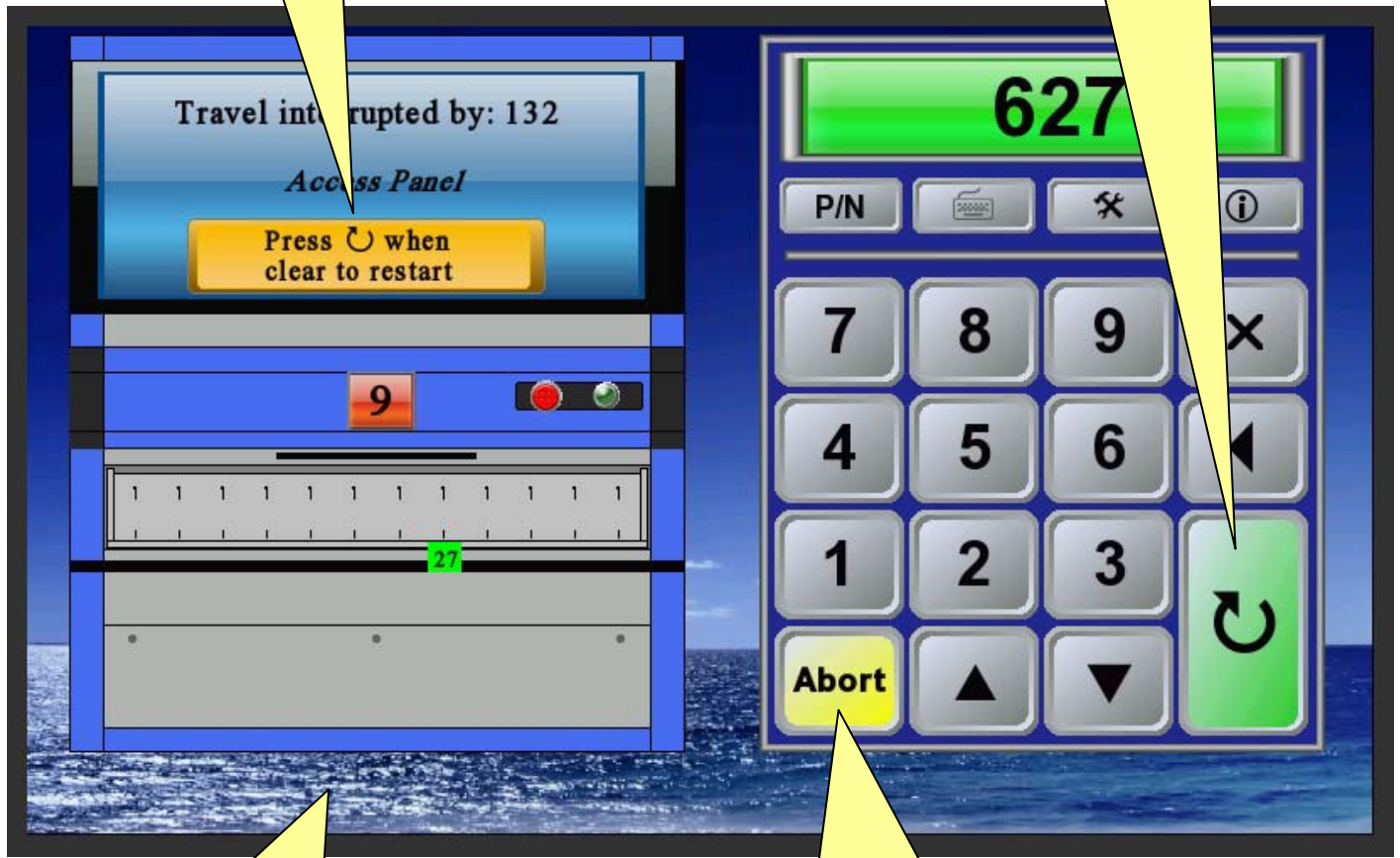


The present error is shown graphically on the SIP

The present error code and description
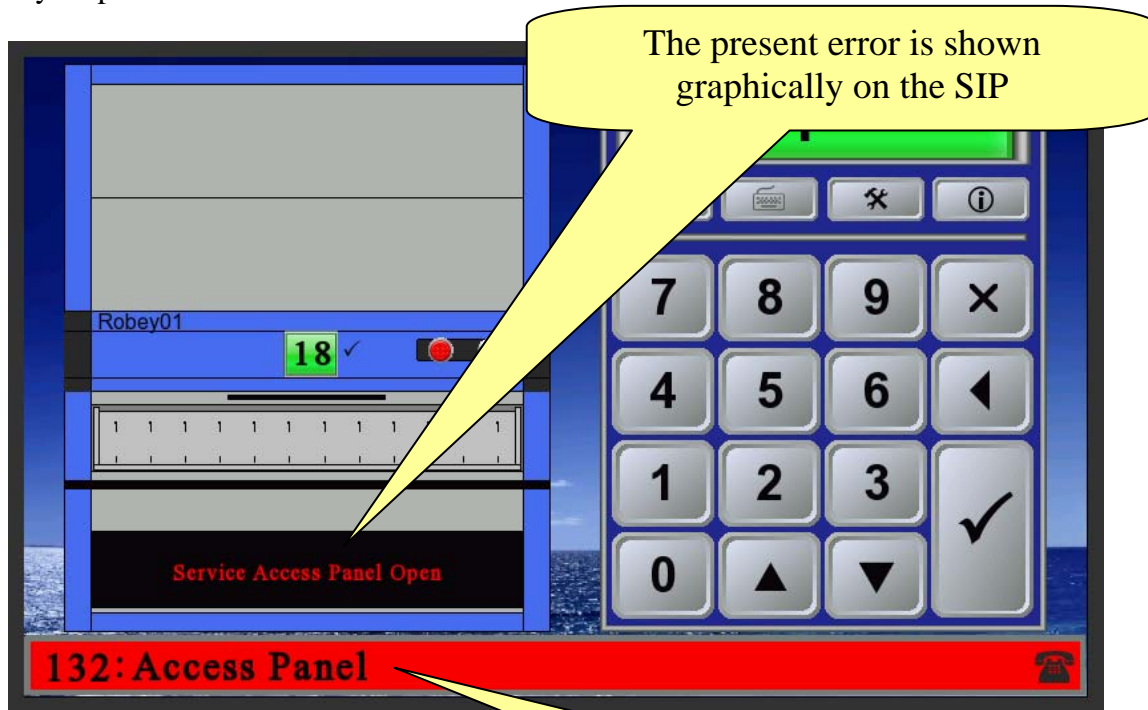
The interruption that caused the unit to stop
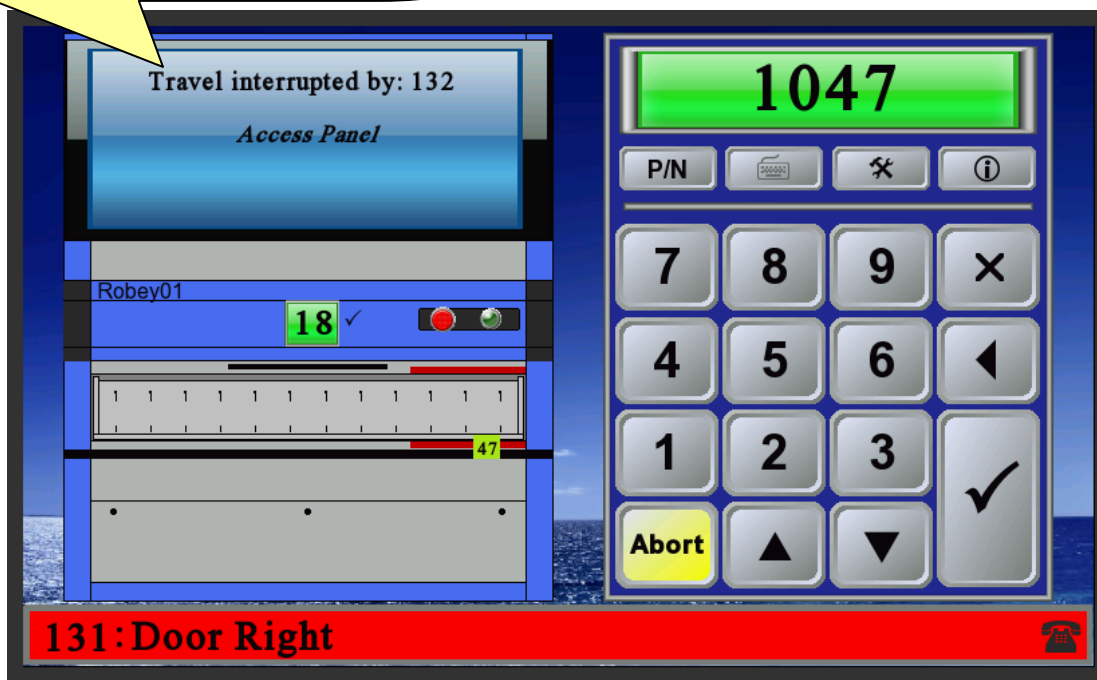
System indicates "clear to restart".

After the Present Error is cleared, the machine can be restarted with the restart button.

Travel interrupted by: 132

*Access Panel*

Press ↻ when clear to restart

9

627

P/N

7  8  9  ×

4  5  6  ◄

1  2  3  ↻

Abort  ▲  ▼

27

Present errors are 'clear', when nothing is shown in the Present Error display area.

The ABORT button allows the interruption to be aborted, rather than continuing onto the original destination.

## - System Information Panel (SIP)

The OP7 has a graphical representation of the vertical carousel to help the operator diagnose system errors and interruptions.  Many different graphical icons will be displayed during the normal course of operating the machine.  A few are shown below:
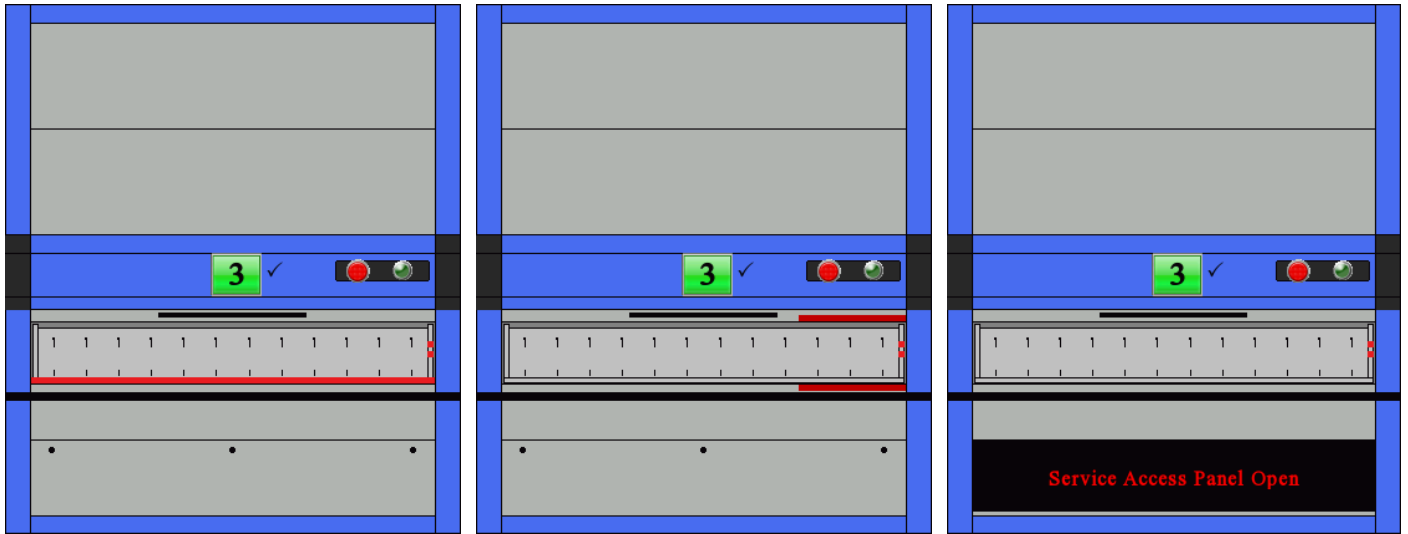


Lower photocell interruption



Right-hand door tripped



Access Panel is open
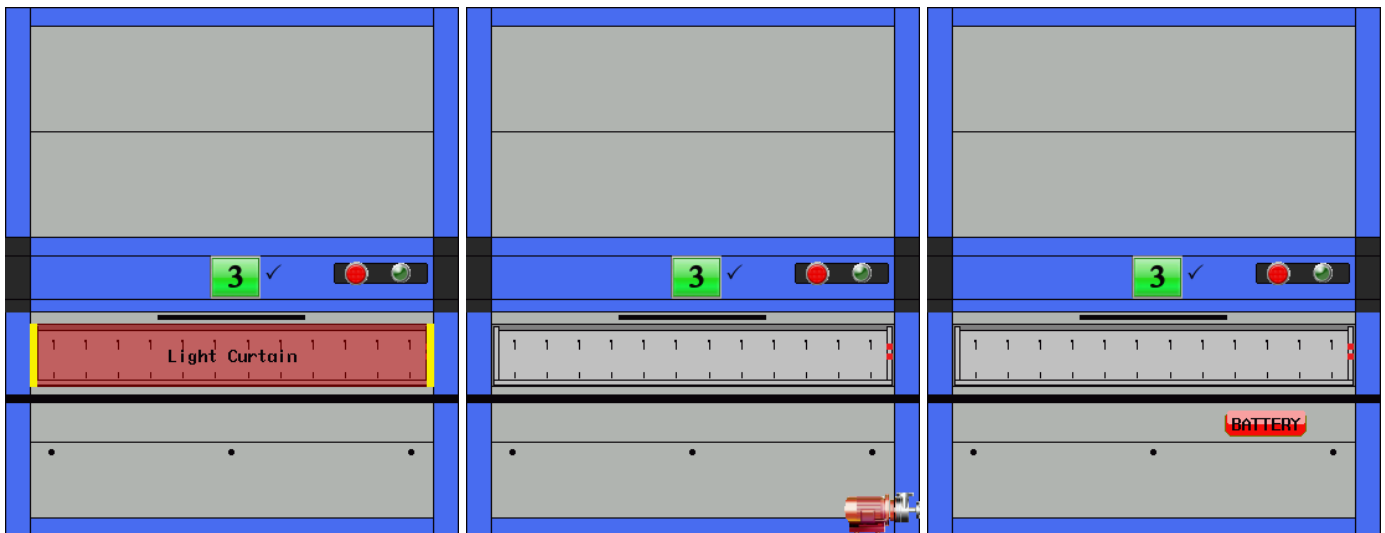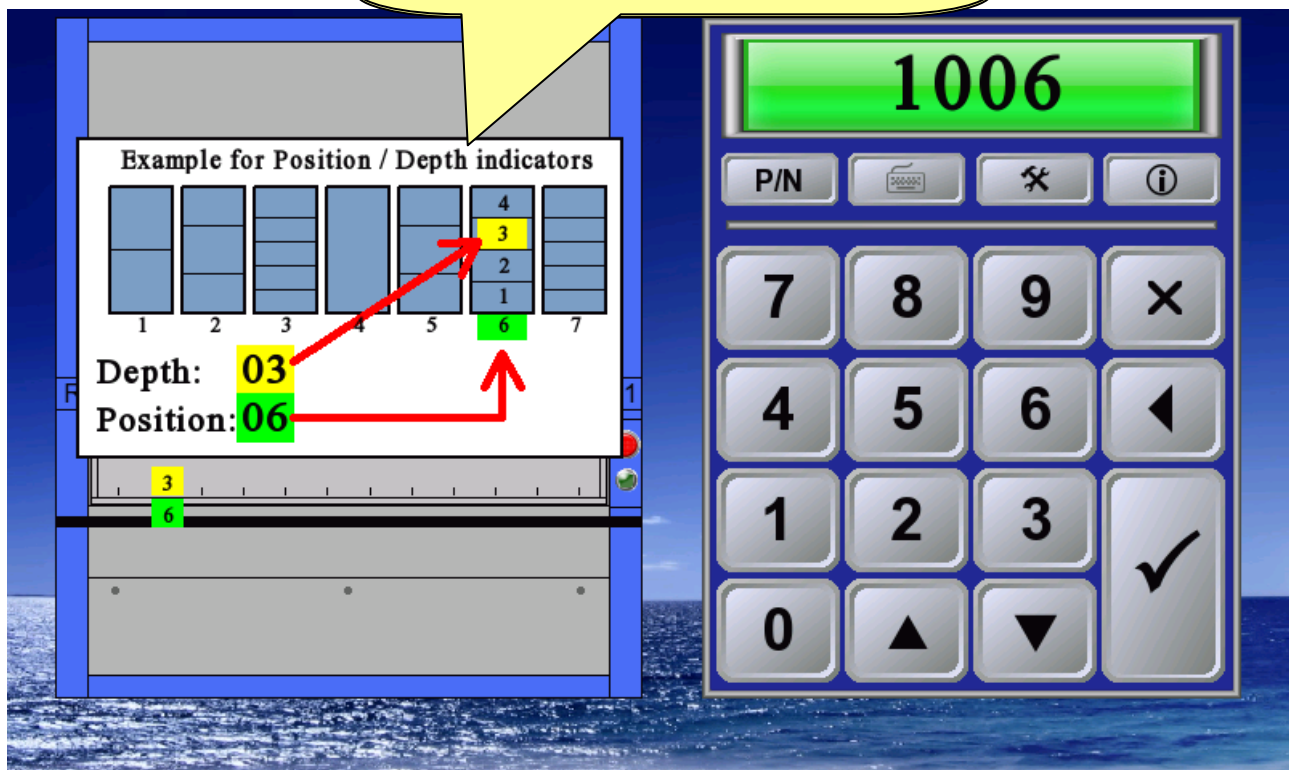


Light Curtain interruption



Motor is hot



Low battery warning

## - System Information Panel (SIP), touch sensitive areas, _Position indicators_

The SIP has some touch-sensitive areas that provide helpful information or reminders.
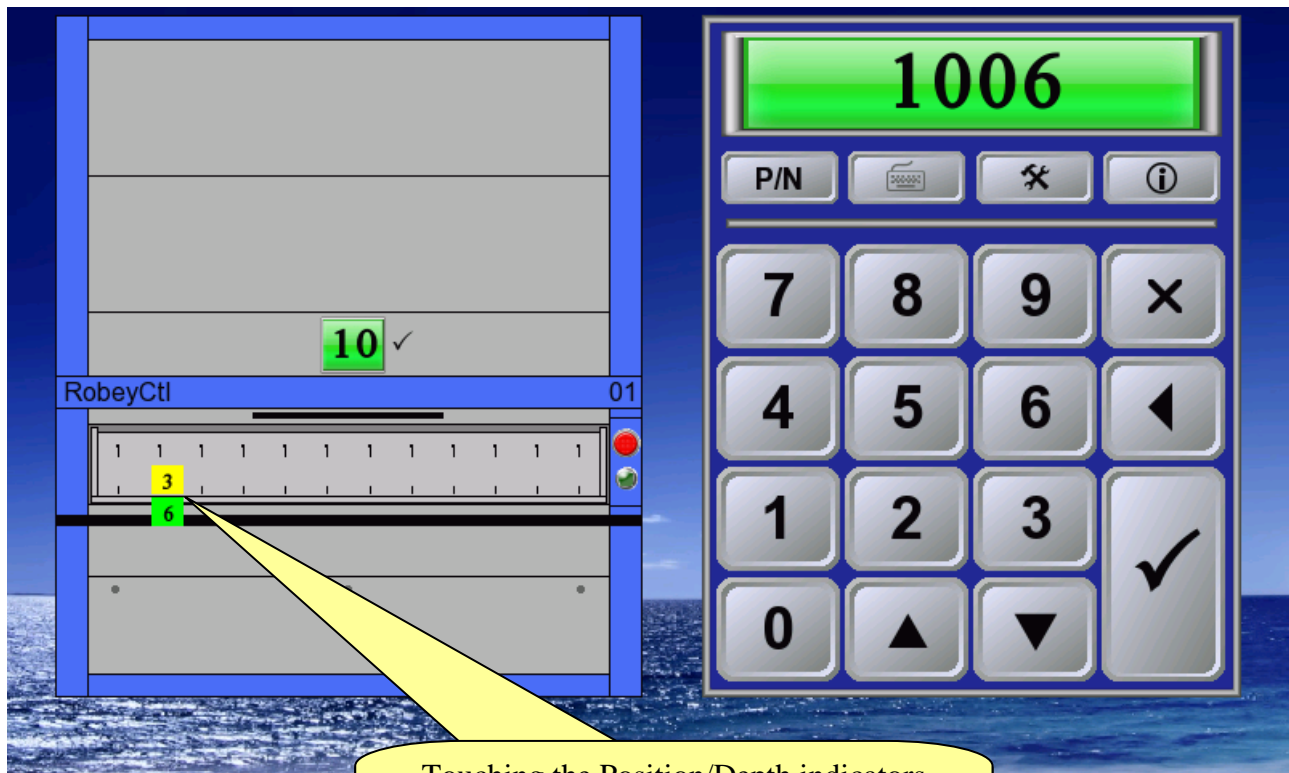


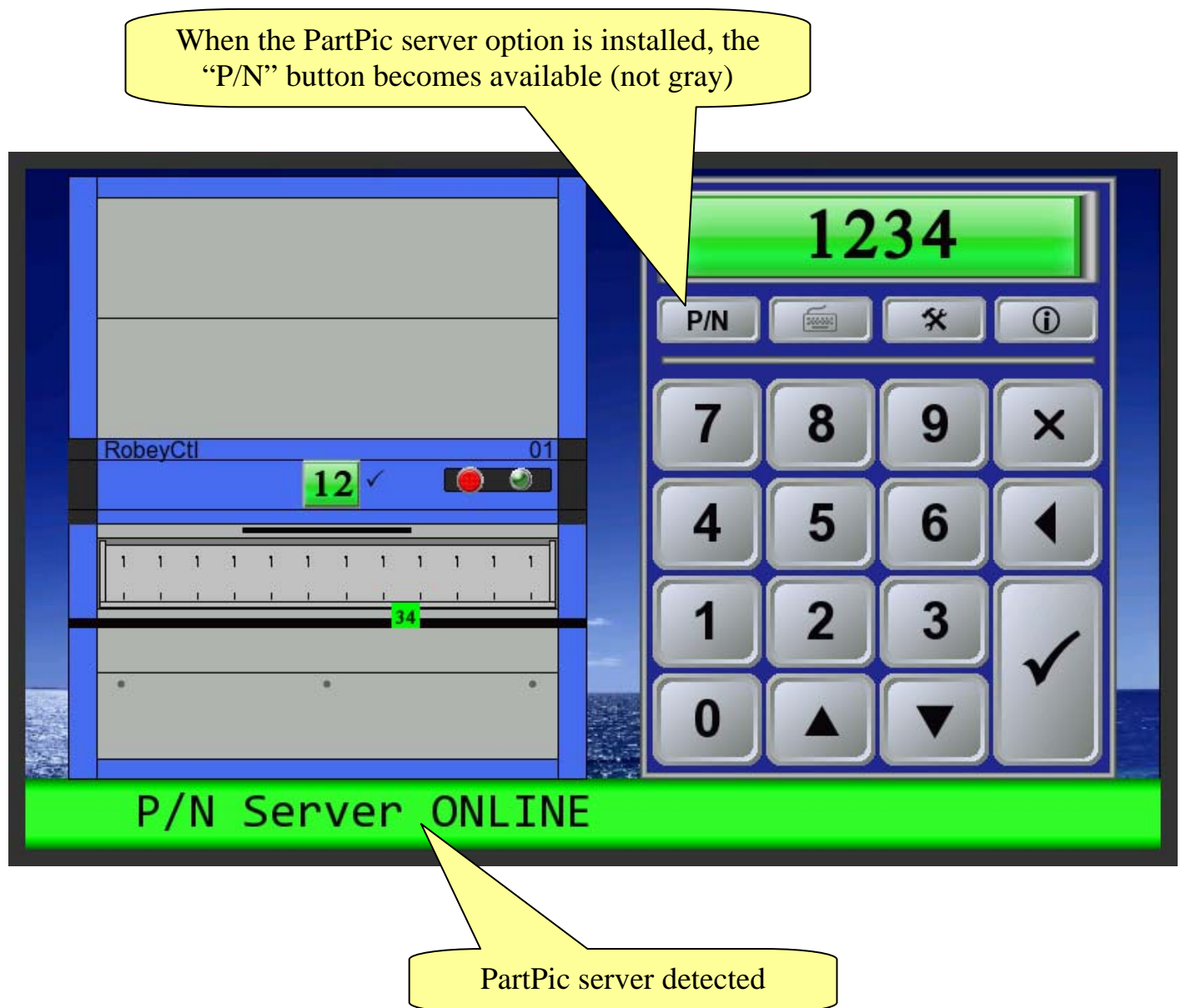Touching the Position/Depth indicators pops-up a help message to explain their operation.

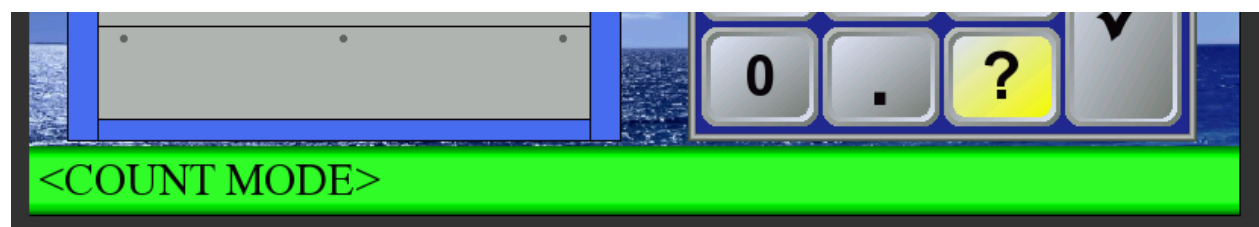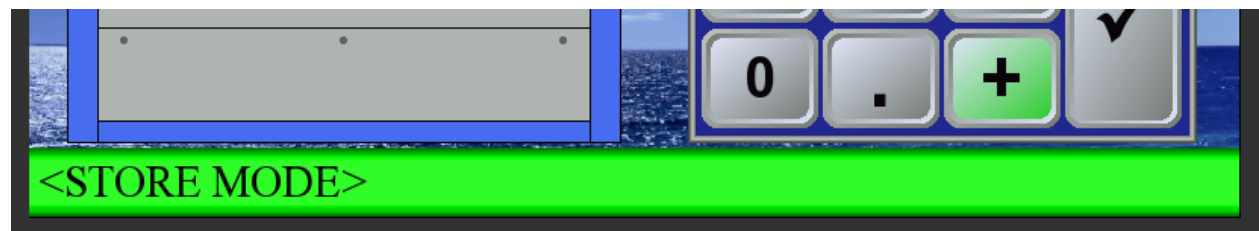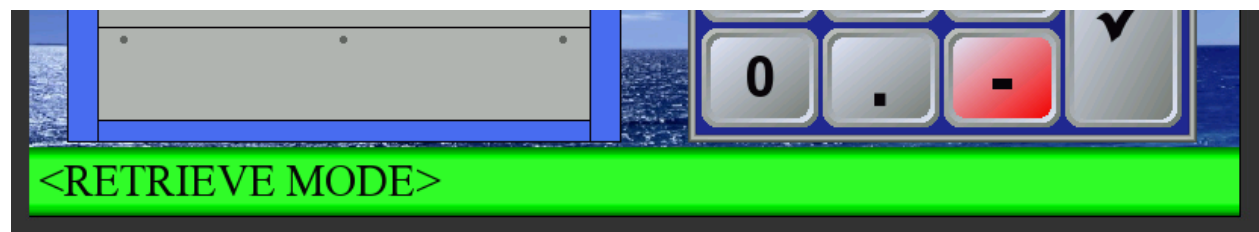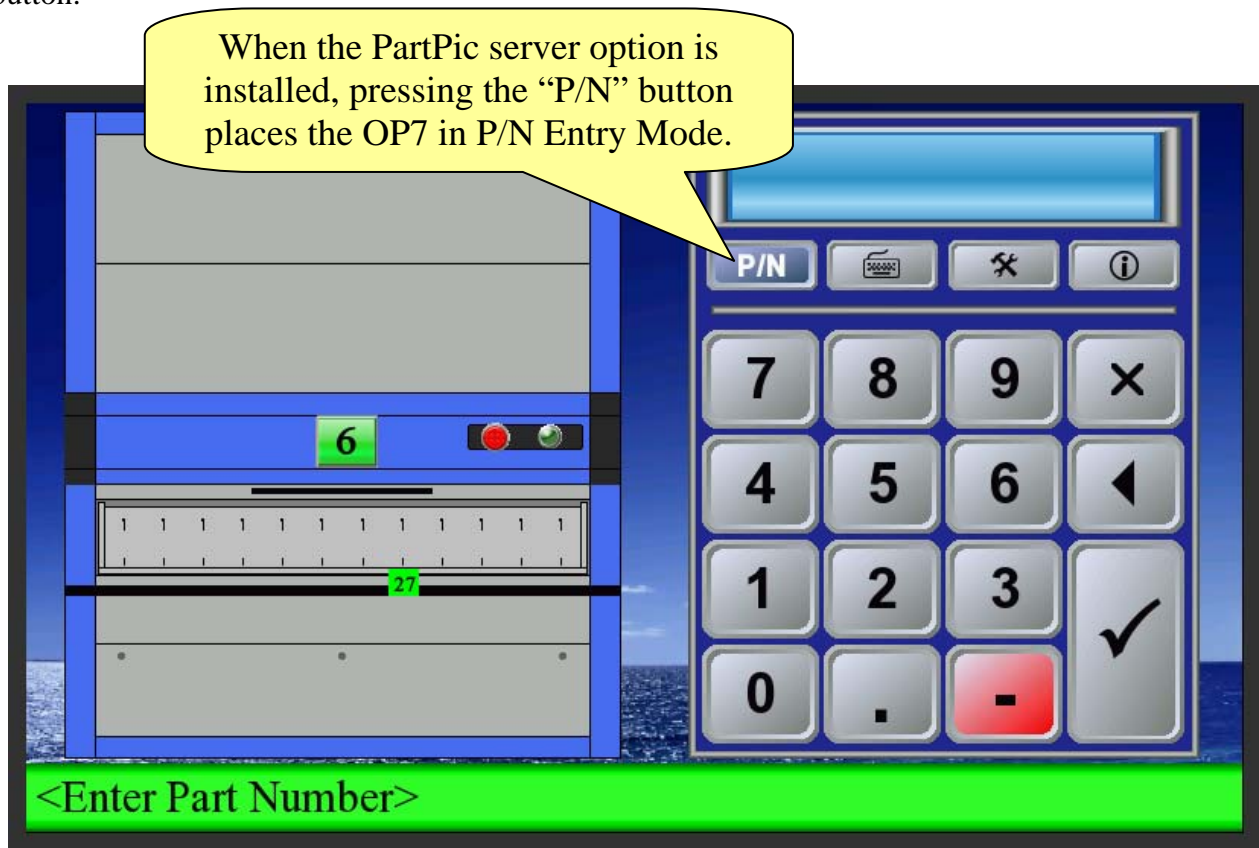## PartPic SERVER (P/N Server)

### - *Overview*

The control panel normally is used to select a shelf level and deliver it to the workstation.  It does not have the ability to find inventory based on part numbers on its own.

An option called "PartPic Server" provides the ability to locate Part Numbers within the system, by using a remote database stored on an external PC.  Operators can enter a Part Number (P/N) directly on the OP7 keypad using the touch numeric keypad, the pop-up touch QWERTY keypad, the external USB keypad or a barcode scanner.  PartPic server will return the storage location for the associated part and deliver it for operator access.  The operator then has the ability to report the number of pieces for the transaction, and PartPic will keep the stock location inventory up-to-date.

When the PartPic server option is installed, the "P/N" button becomes available (not gray)
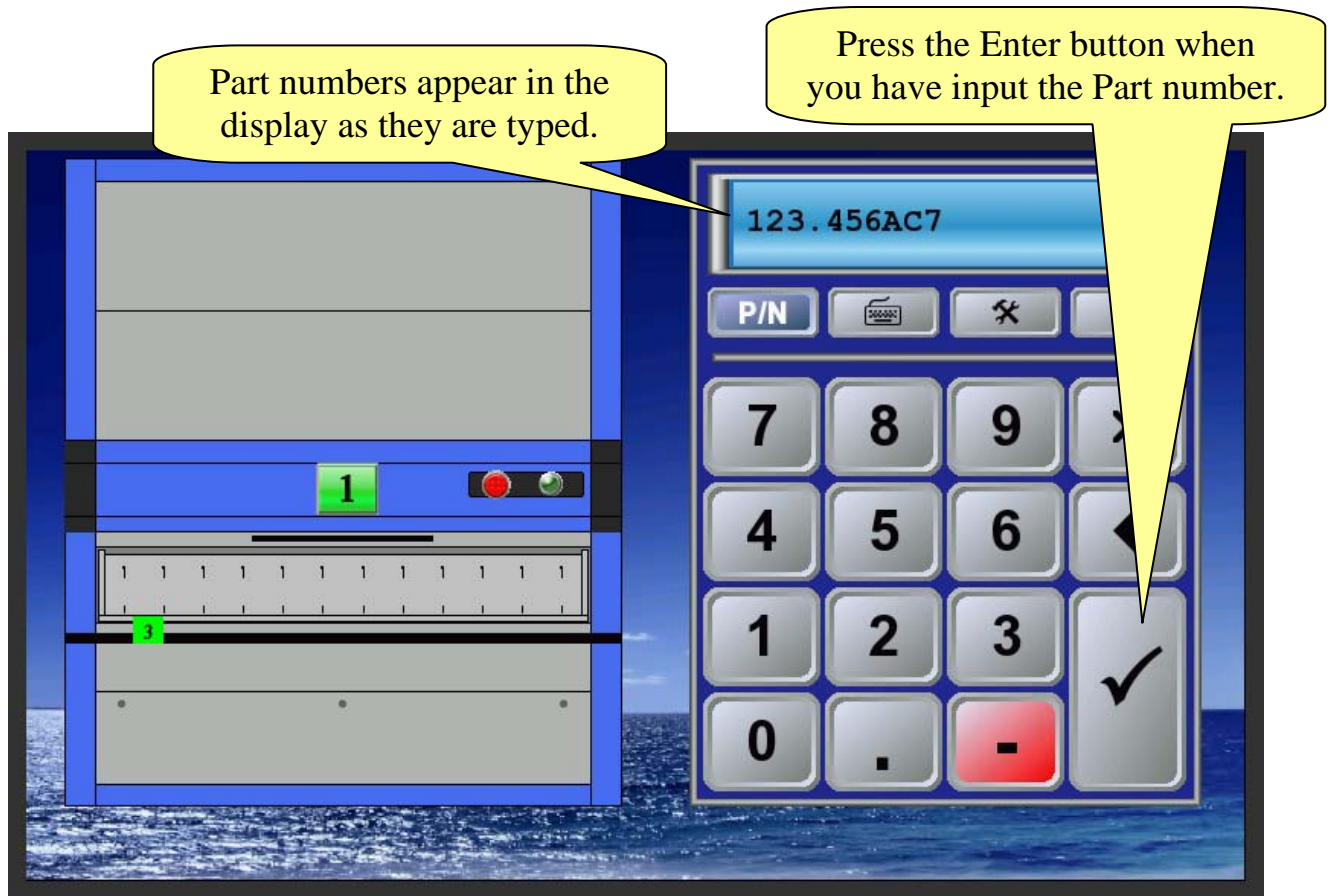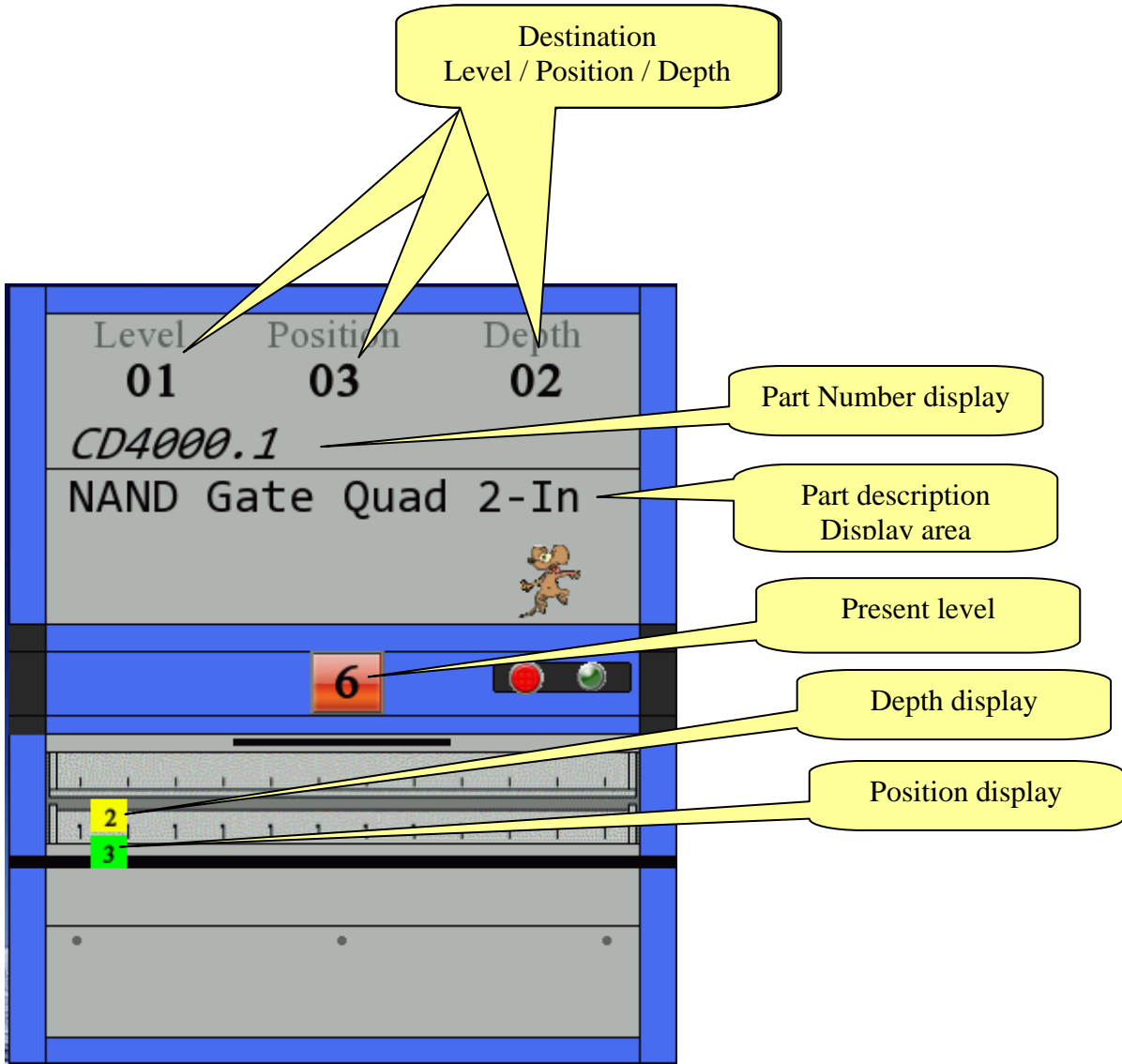
PartPic server detected

## - Entering Part Numbers

Pressing the P/N button on the OP7 places it into P/N entry mode. Part numbers can now be entered into the system for recall by the PartPic server. You can select to Retrieve, Store, or Count the inventory using the -, +, ? button:



When the PartPic server option is installed, pressing the "P/N" button places the OP7 in P/N Entry Mode.

<Enter Part Number>



<RETRIEVE MODE>



<STORE MODE>



<COUNT MODE>

The operator can now enter Part numbers into the display using the numeric keypad, or the pop-up QWERTY keypad, or the external USB keypads, or the barcode scanner.

Part numbers appear in the display as they are typed.

Press the Enter button when you have input the Part number.

123.456AC7

| P/N | | ✖ |
| 7 | 8 | 9 |
| 4 | 5 | 6 |
| 1 | 2 | 3 |
| 0 | . | - |

| Level | Position | Depth |
|-------|----------|-------|
| 01 | 03 | 02 |

CD4000.1
NAND Gate Quad 2-In

CD4000.1

| P/N | | ✖ | ⓘ |
| 7 | 8 | 9 | ✕ |
| 4 | 5 | 6 | ◀ |
| 1 | 2 | 3 | |
| STOP | . | - | ✓ |

Accessing:CD4000.1

Destination
Level / Position / Depth

| Level | Position | Depth |
|-------|----------|-------|
| 01    | 03       | 02    |

CD4000.1

NAND Gate Quad 2-In

Part Number display

Part description
Display area

Present level

6

Depth display
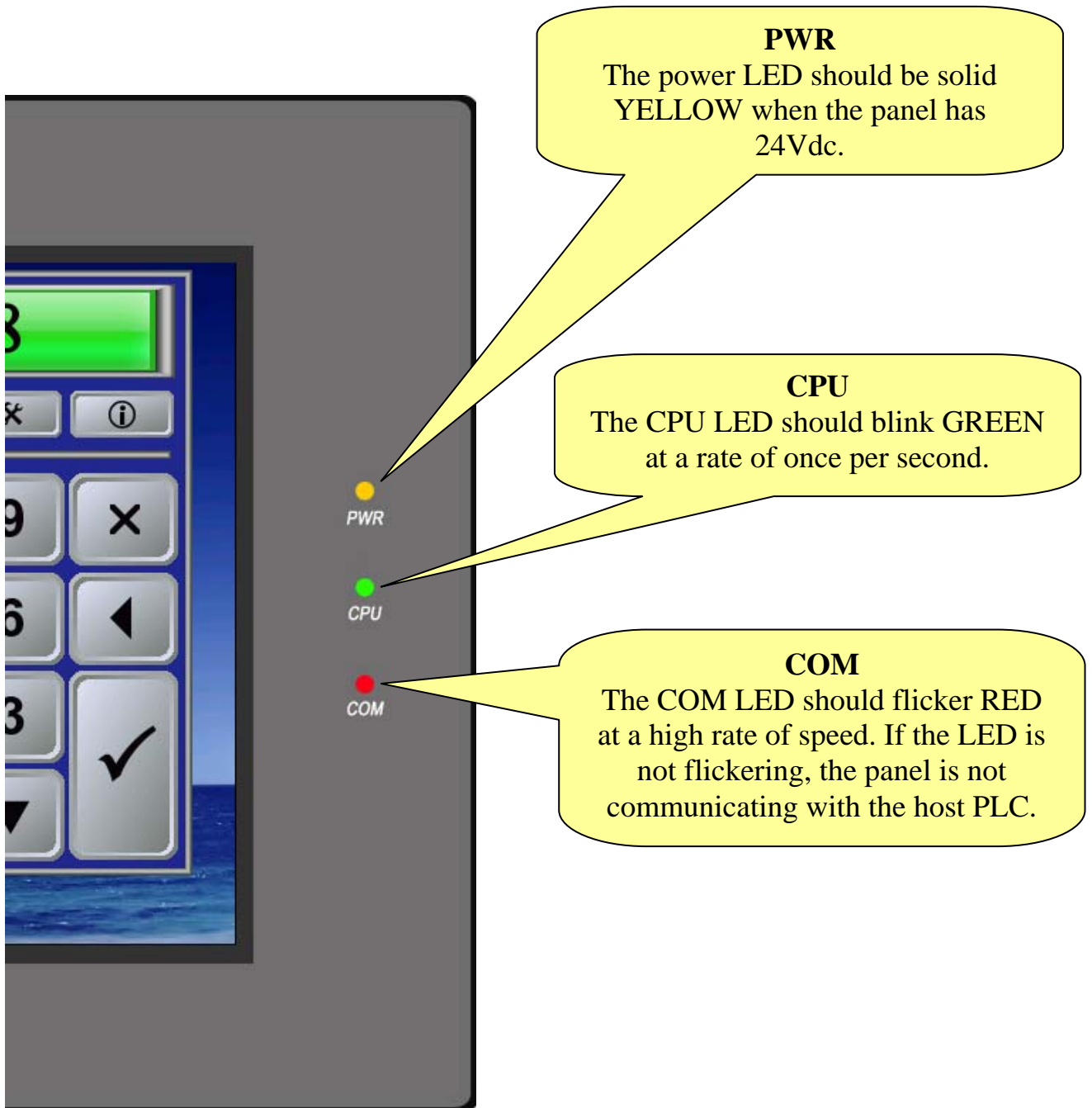
Position display

2

3

*- Confirming transactions*

Once the machine reaches the storage location for the item, the transaction quantity can be confirmed to adjust the inventory level back at the server. The confirm (enter) button changes color according to the mode (retrieve, store or count) and a prompt guides the operator for the required action:



< Confirm retrieval quantity >



< Confirm storage quantity >



< Confirm stock level >
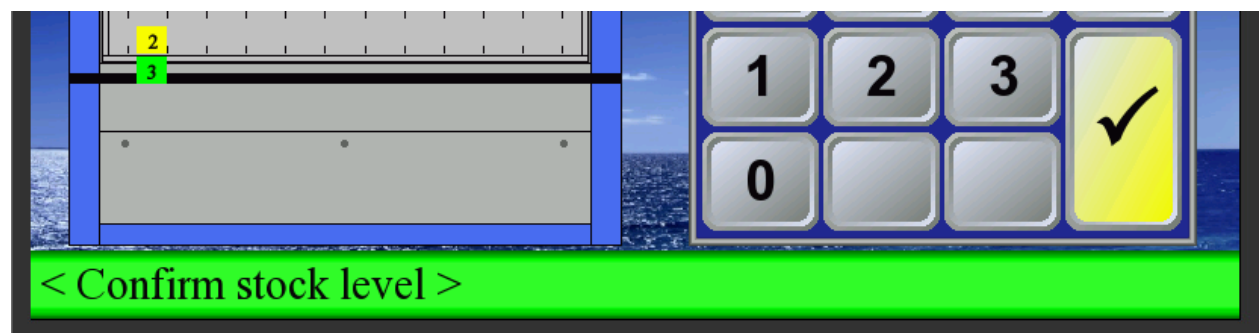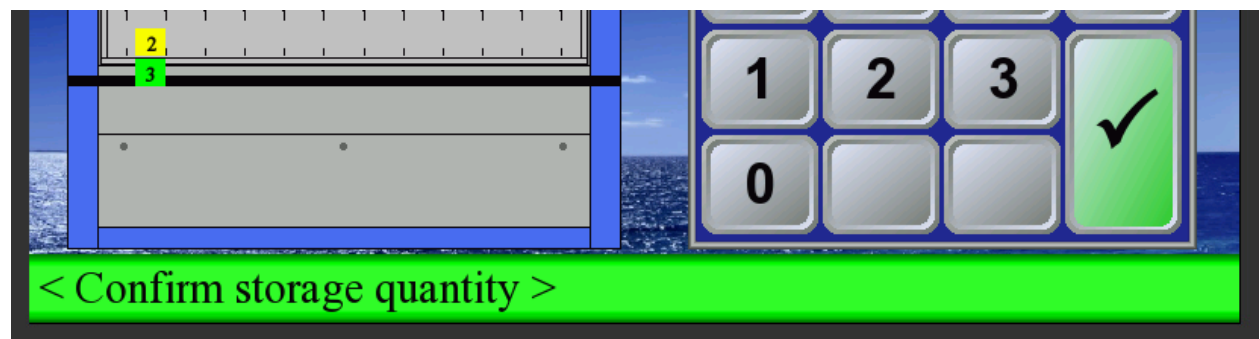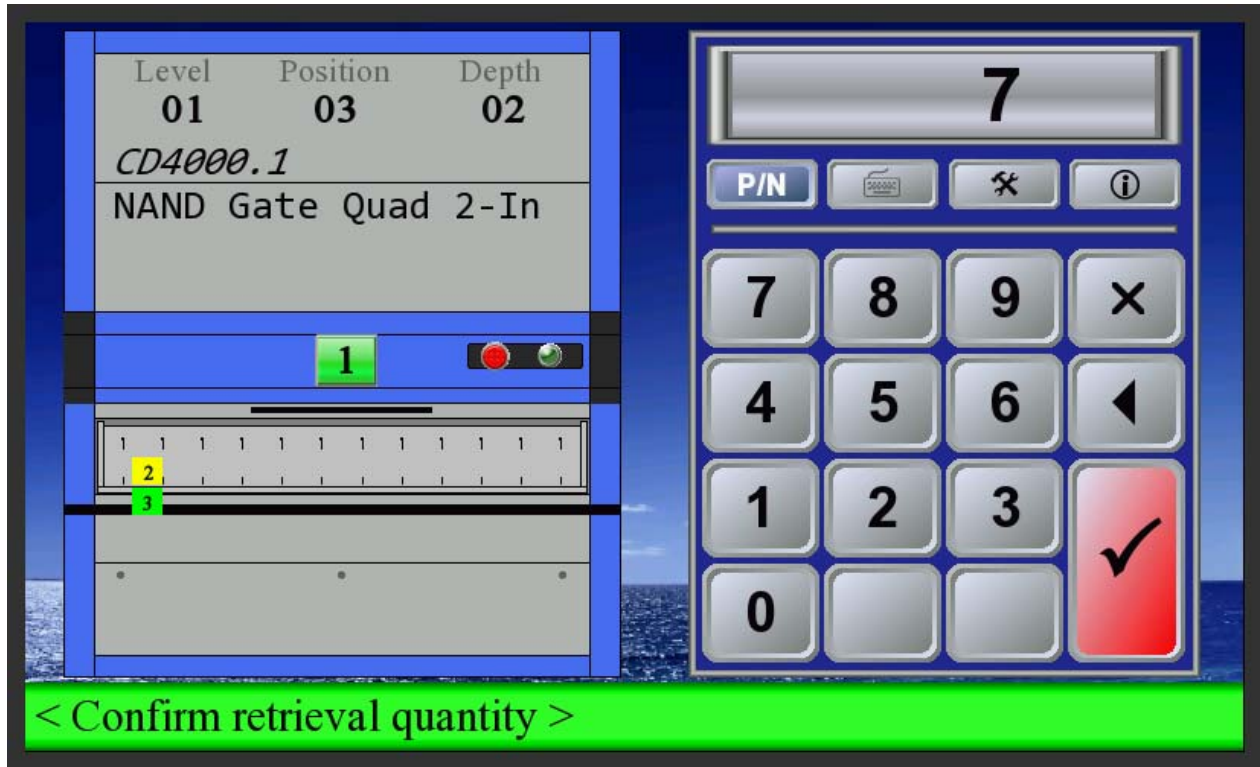
# BUTTONS & INDICATORS

*- Indicator LEDs on bezel*

Three LED indicators on the right side of the Operator Panel face indicate various operating conditions as follows:

**PWR**
The power LED should be solid YELLOW when the panel has 24Vdc.

**CPU**
The CPU LED should blink GREEN at a rate of once per second.

**COM**
The COM LED should flicker RED at a high rate of speed. If the LED is not flickering, the panel is not communicating with the host PLC.

*- Overview, mounting locations*

Each system includes push-buttons and indicator lamps for interface with the operator. These button-plates include an emergency stop button, safety reset button, green status indicator light, white pilot (control power on) light, and an optional joystick for up and down control of the machine.

There are typically two mounting locations for these button-plates including vertical and horizontal mounting configurations, but they both perform the same functions.

*Mounting options*



EMERGENCY STOP

Press this button (smack it!) anytime the machine appears to be operating in an unsafe manner!

Horizontal Mount

Typically used for retrofits on carousels produced with an overhead "front-case" from 1985 – today.

Vertical Mount

Typically used for retrofits on carousels produced with MP-Controls from 1983 - 1985

## Reset Button/indicator

This GREEN button is pressed to energize the machine's safety system when the operator is ready to use the system and has confirmed that the machine is safe to operate.

It will illuminate GREEN when the safety system is ready for operation.

It will blink when the control system is ready to be reset, indicating that it should be pressed when the operator is ready.

| OFF | Not Ready | The unit has a safety violation, and is not ready to be reset. |
|---|---|---|
| BLINKING | Waiting | The unit is ready to be reset; push the button when the machine is clear for operation. |
| ON | Ready | The unit is reset and ready to operate. |
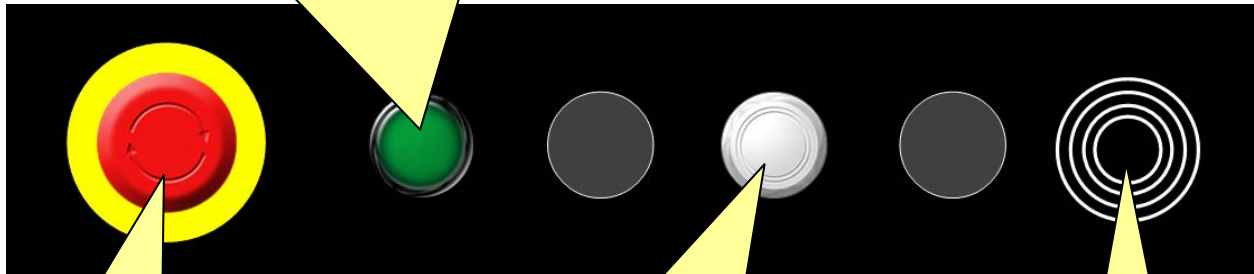
### Emergency Stop (EStop)

Smack (press hard and quick) this button any time that you or another operator are in harms-way, or the machine is not behaving as expected

To release, twist the button clock-wise until it pops out.

### Pilot Light

The 'Pilot Light' indicates that the controller has control voltage (power); basically showing that it is switched ON.

### Joystick Control

The joystick can be used to move the machine UP or DOWN
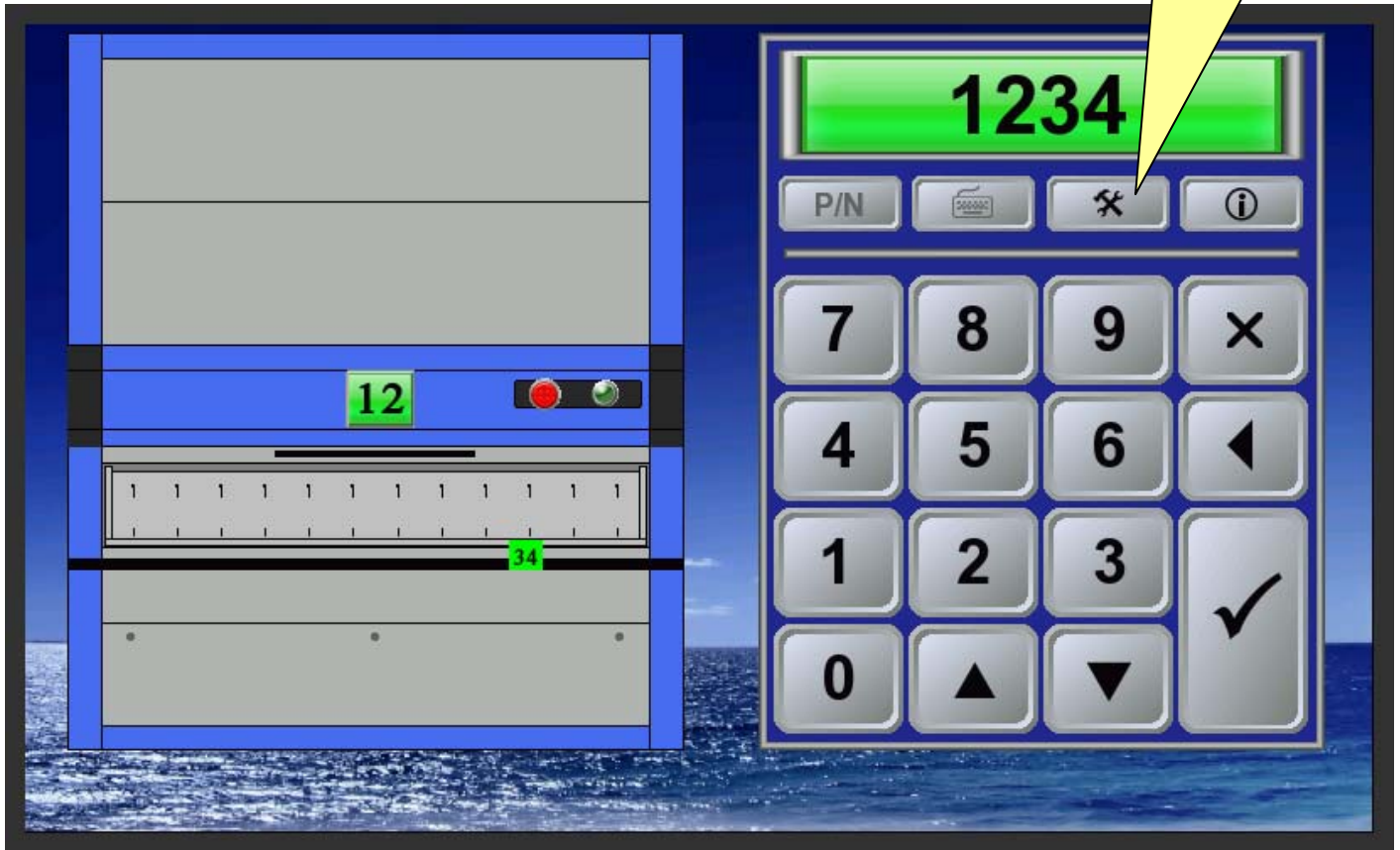The machine must be 'Ready' for this to function.

# ⚒ SYSTEM SETUP MENU

*General Setup menu*

Upon entry to the SETUP menu by pressing the SETUP ( ⚒ ) button on the main keypad, various menu option buttons are available as shown on the following page.
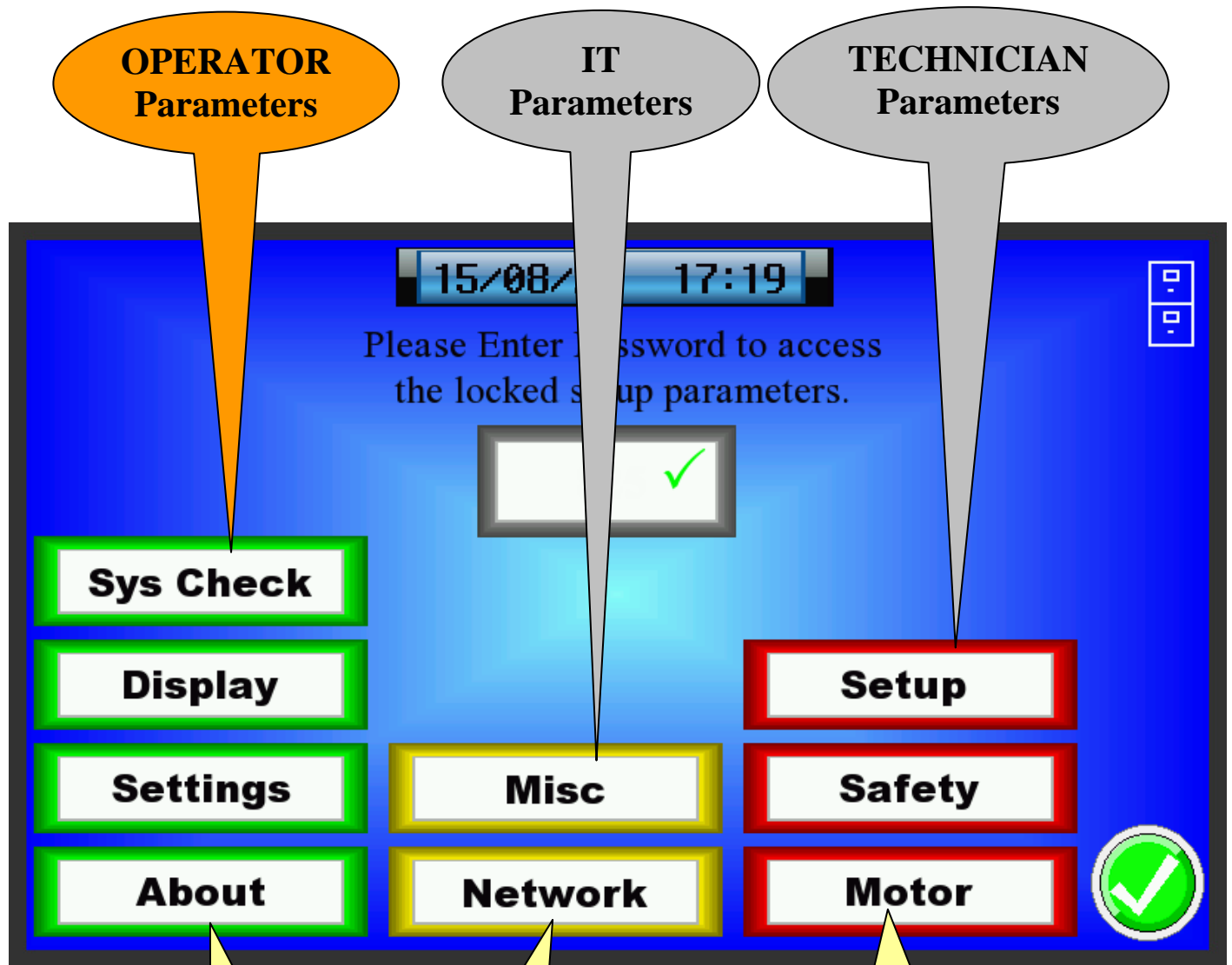
**SETUP MODE**
Press this button to access the SETUP menu

## - Setup menu groups

The following Several options are available to the general operator as shown with the buttons with Green frames. The other more critical setup functions, shown in Yellow and Red frames, are disabled without a valid password and only recommended for the IT management and trained technicians.  When finished, press the green check-mark in the lower right-hand corner to return to the main operating screen.

**OPERATOR Parameters**

**IT Parameters**

**TECHNICIAN Parameters**

15/08/     17:19

Please Enter Password to access the locked setup parameters.

✓

Sys Check

Display

Settings

About

Misc

Network

Setup

Safety

Motor

✓

These green menu options are unlocked and accessible to all users.

These yellow menu options are locked and accessible to Level 1 password users.

These red menu options are locked and accessible to Level 2 password users only: TRAINED TECHNICIANS!

**Sys Check**

*[29.0] SYS CHECK*

The System Check routine steps the operator through the process of checking the machine's safety sensors. It should be performed on new installations, when any changes to the machine's safety systems are made, and periodically during usage of the machine as defined by the customer's management.

> The controller will force the SYS-CHECK routine to be executed once per month, unless otherwise disabled by a technician with the customer Authority having Jurisdiction over machine and personnel safety.

Check-marks confirm the sensors that have passed their safety check.

System Test: **4.2**
DOOR LH UPPER (Break)

PUSH UP
DOOR LEFT UPPER

Make sure that it operates
smoothly & easily!

RobeCon1                                        1

SRM   K1   K2   K3   V1

29.0

Step-by-step instructions guide the operator through the SYS- CHECK routine.

Graphic highlight prompts provide visual feedback to the operator, showing the area to test

Some of the SYS-CHECK process steps may be bypassed, and are shown when the SKIP button appears. If it is convenient, you should still perform the test occasionally. Maintenance inspections should never bypass the tests – any problems with safety should always be repaired before returning the machine to operating condition!



Some steps can be bypassed

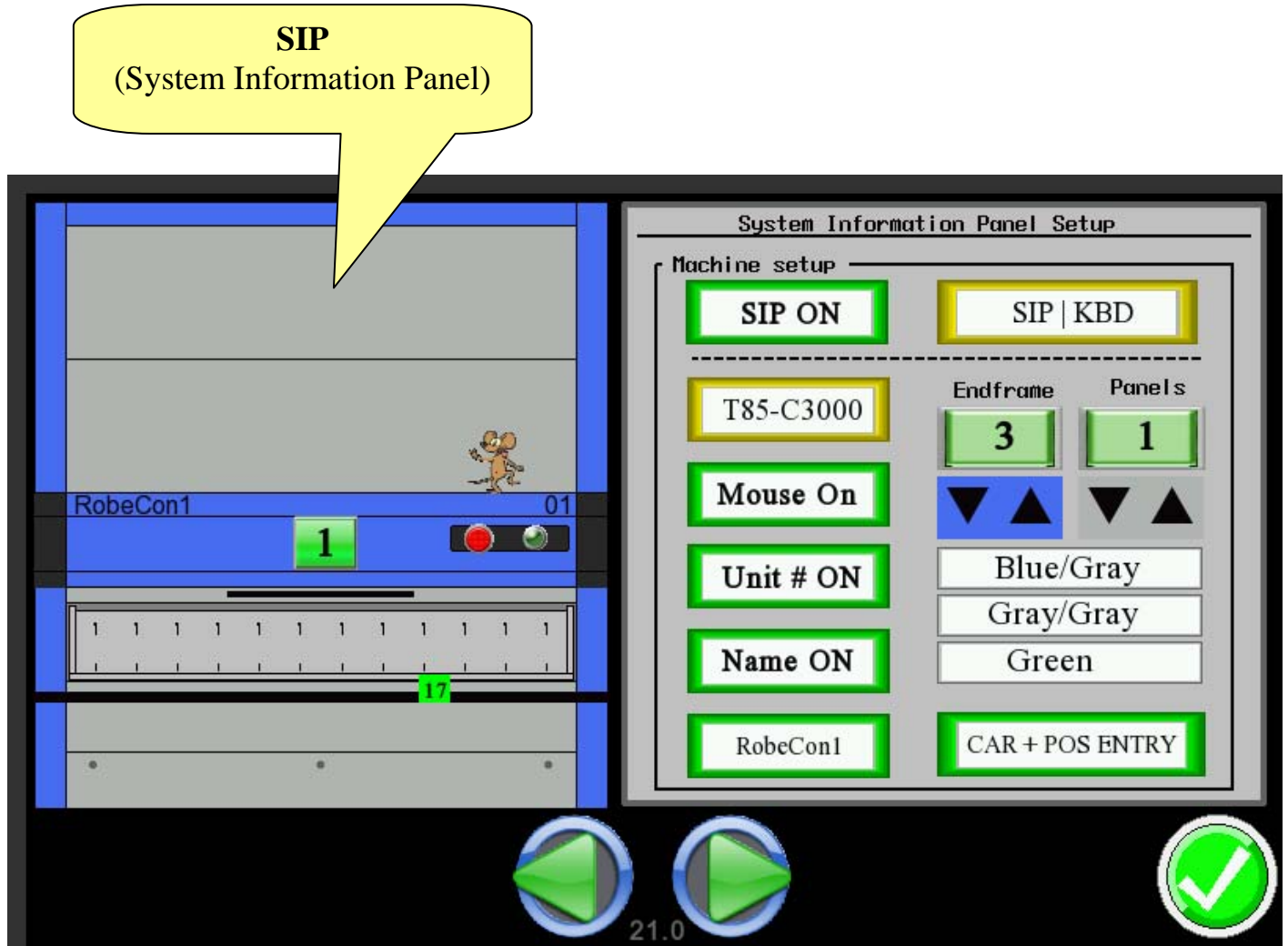A technician can bypass this monthly routine via another menu option. A technician with the customer's permission can disable the routine altogether.

This routine is for the safety of the machine, the operator and maintenance personnel and therefore Robey Controls does not recommend that it ever be disabled or cancelled, but rather the machine safety systems be repaired instead.

**Display**

The DISPLAY menu allows the operator to setup the OP7 in various operating settings.

*[21.0] System Information Panel Setup*

The first page is used for setting up the System Information Panel (SIP) according to operator preference. Several settings are available as shown below:



SIP
(System Information Panel)

System Information Panel Setup

Machine setup

| SIP ON | SIP | KBD |

| T85-C3000 | Endframe 3 | Panels 1 |

Mouse On

Unit # ON · Blue/Gray · Gray/Gray

Name ON · Green

RobeCon1 · CAR + POS ENTRY

RobeCon1    01

1

17

21.0

*- SIP-ON  vs SIP-OFF*

Used to SHOW or HIDE the entire SIP (System Information Panel) in the main operating page:
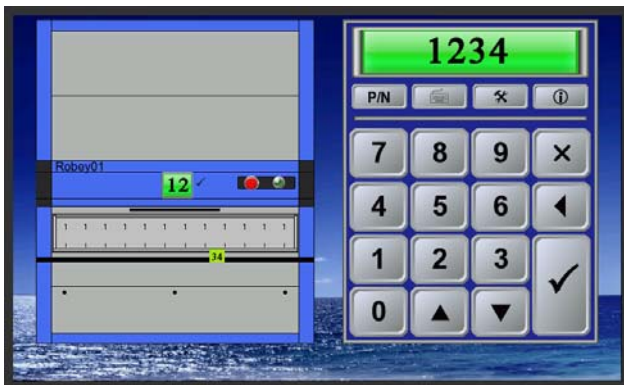




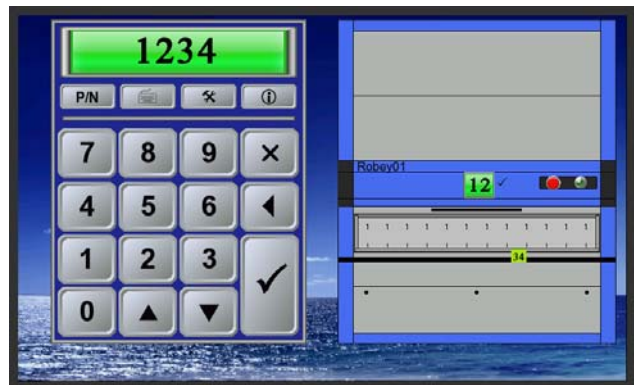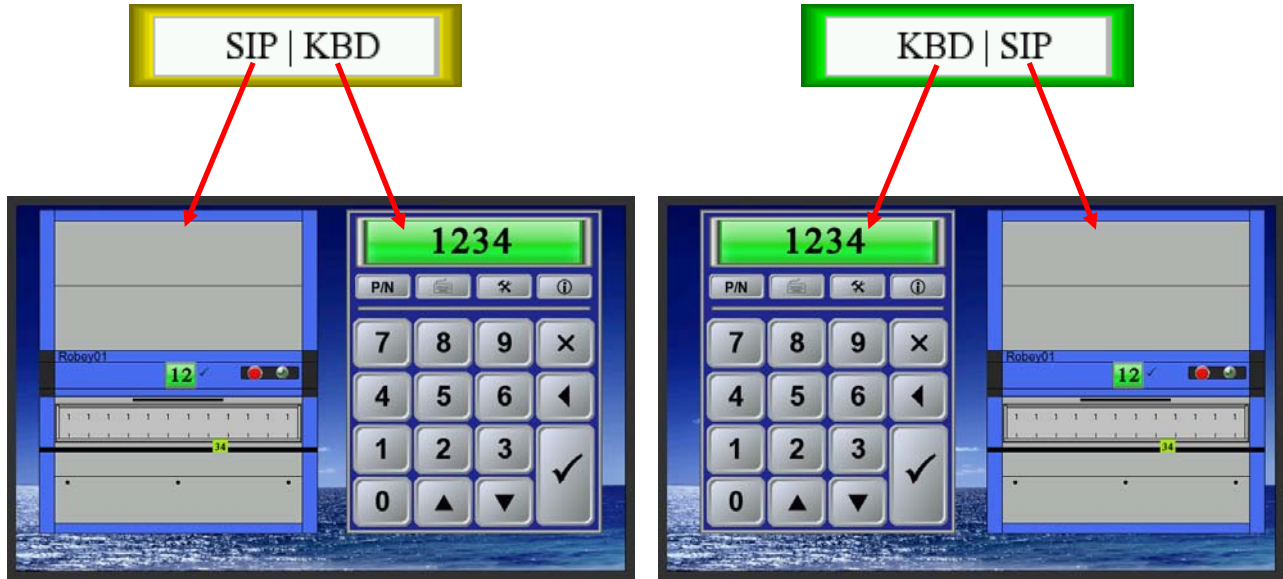| With Right-handed keypad | With Left-handed keypad |
|---|---|





| With Right-handed keypad | With Left-handed keypad |
|---|---|

## - *SIP | KBD vs KBD | SIP*

Used to swap the side the keypad is displayed, for left- or right-handed operation.  The keypad and the SIP swap sides on the main operating page as shown below.
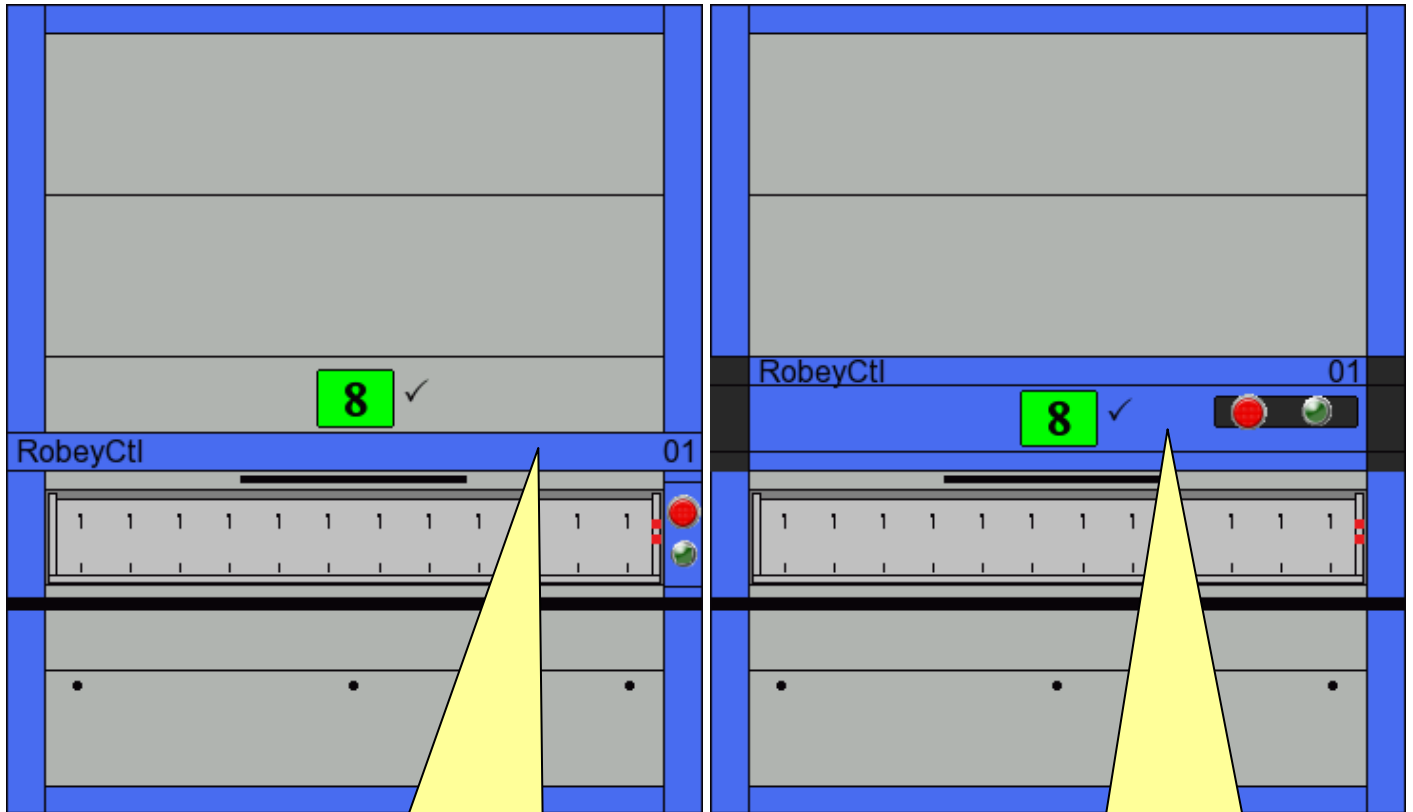
*- MP vs T85-C3000*

The SIP supports two machine icons representing the manufacturer's model ranges including the MP and T85-C3000 generations, as shown below.
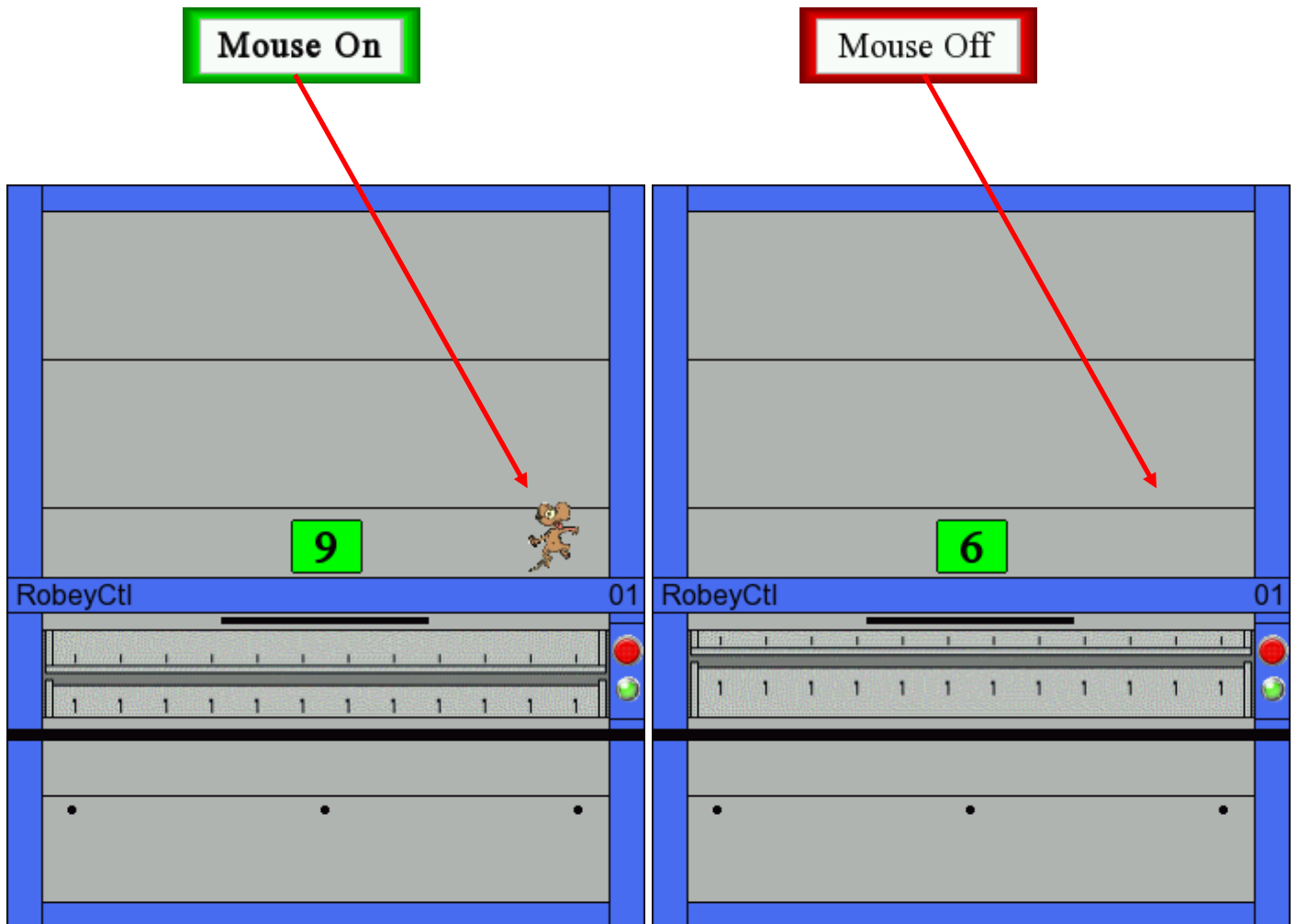
MP

T85-C3000

RobeyCtl    01

RobeyCtl    01

MP showing the "Front-light" design

T85, T88, C2000, C3000
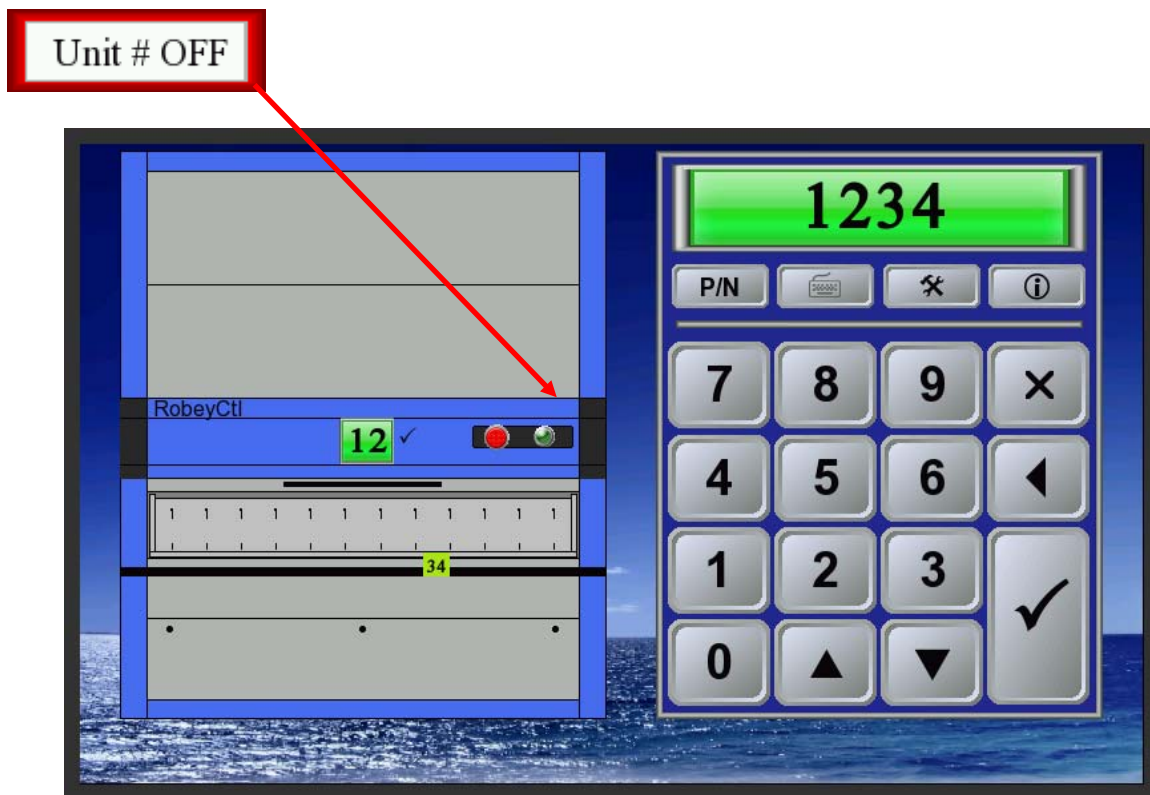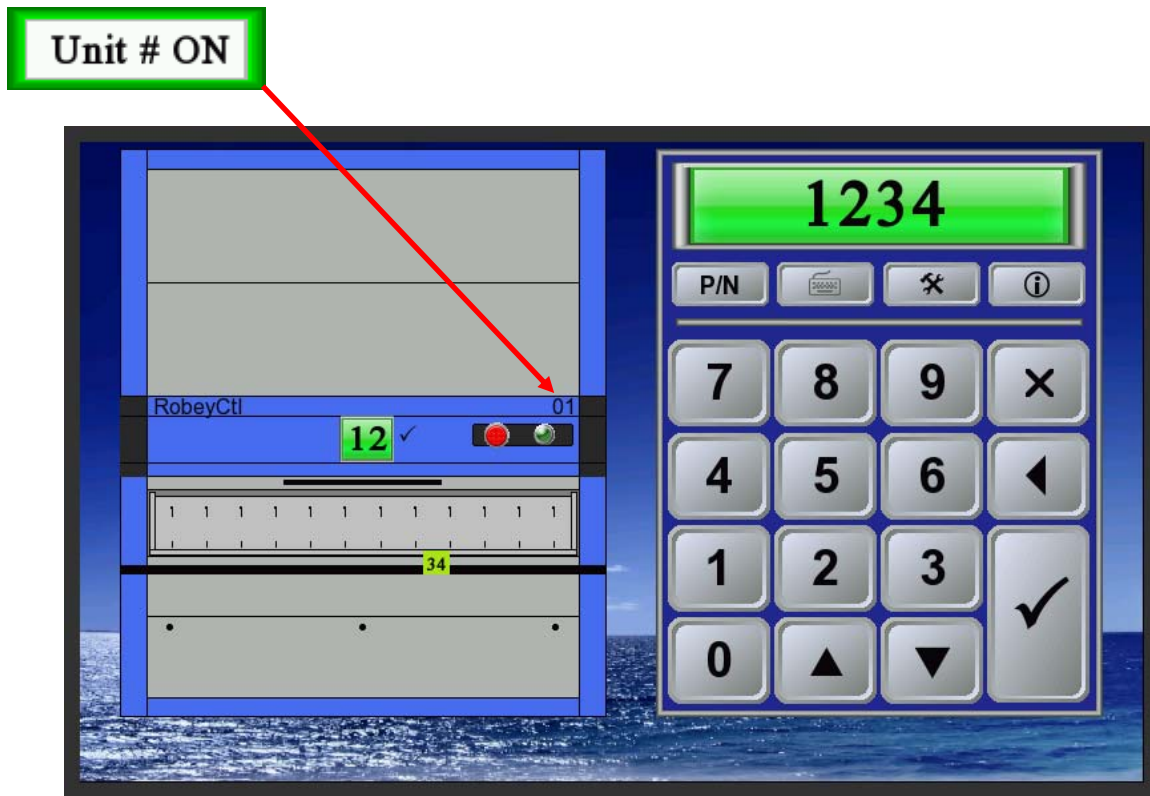showing the "Front-case" design

*- Mouse On vs Mouse Off*

The SIP can show a "machine running" icon in the form of a jumping mouse option:

*- Unit # On vs Unit # Off*

The SIP can show the machine's UNIT # if desired. The unit number is defined via the NETEDIT utility, via the Ethernet interface option.
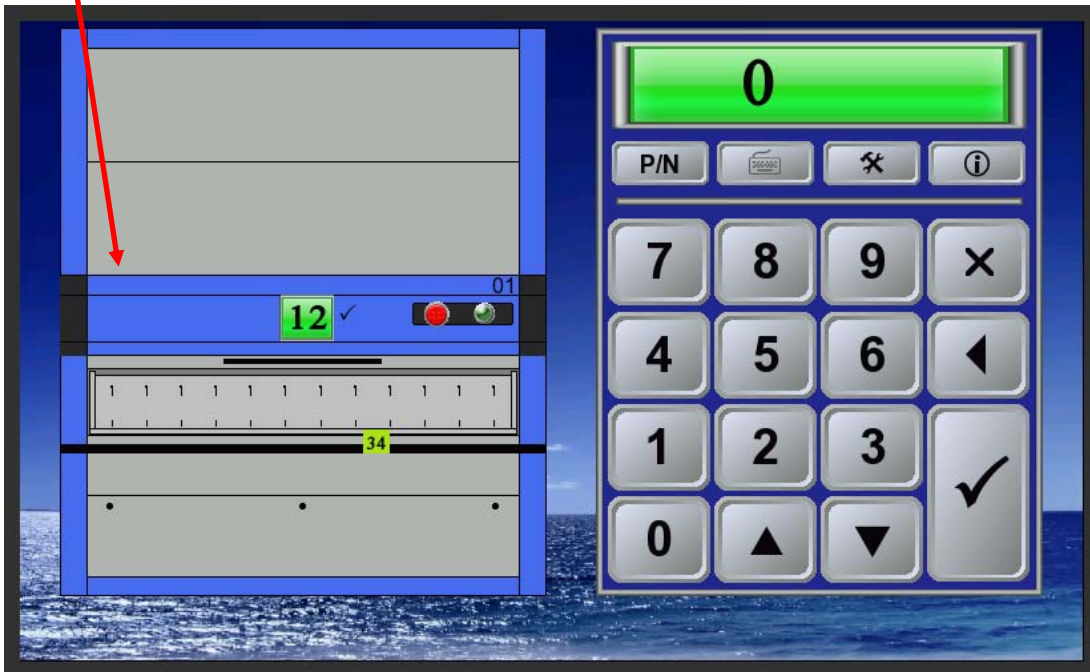
*- Name ON vs Name OFF*

The SIP can show a Unit name if desired.  Typical names may be company asset tags, contents, etc.  Screws, Elect1, PCB-5 etc are all acceptable names.  Typically, the name on the SIP should match the name on the machine if installed.
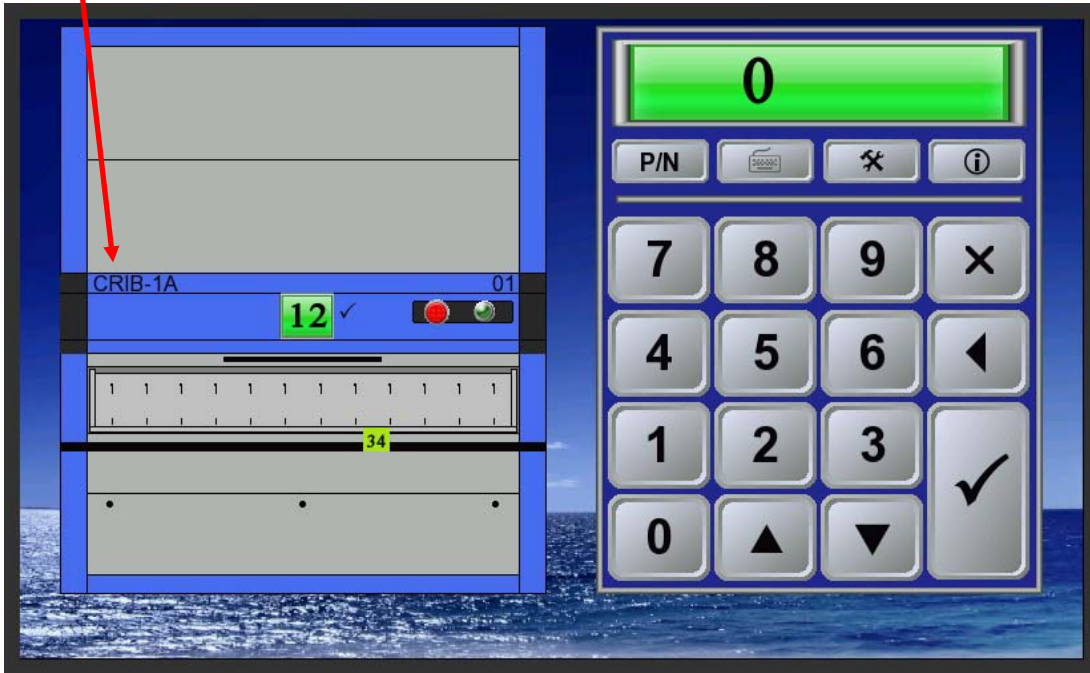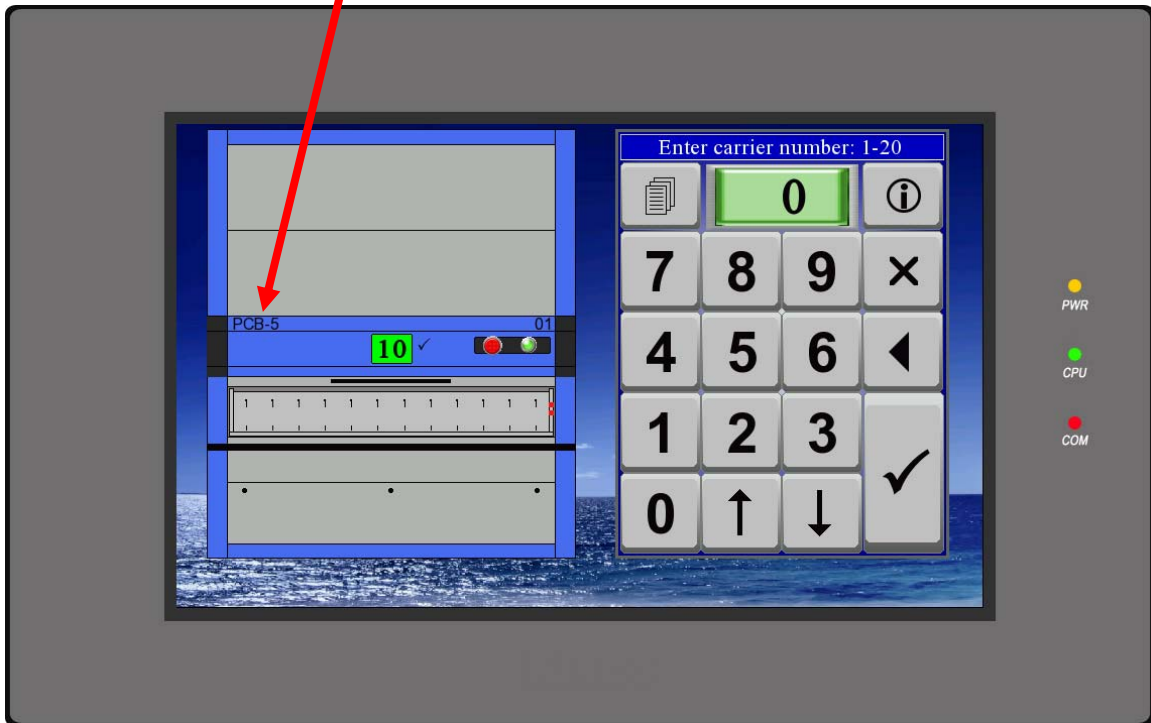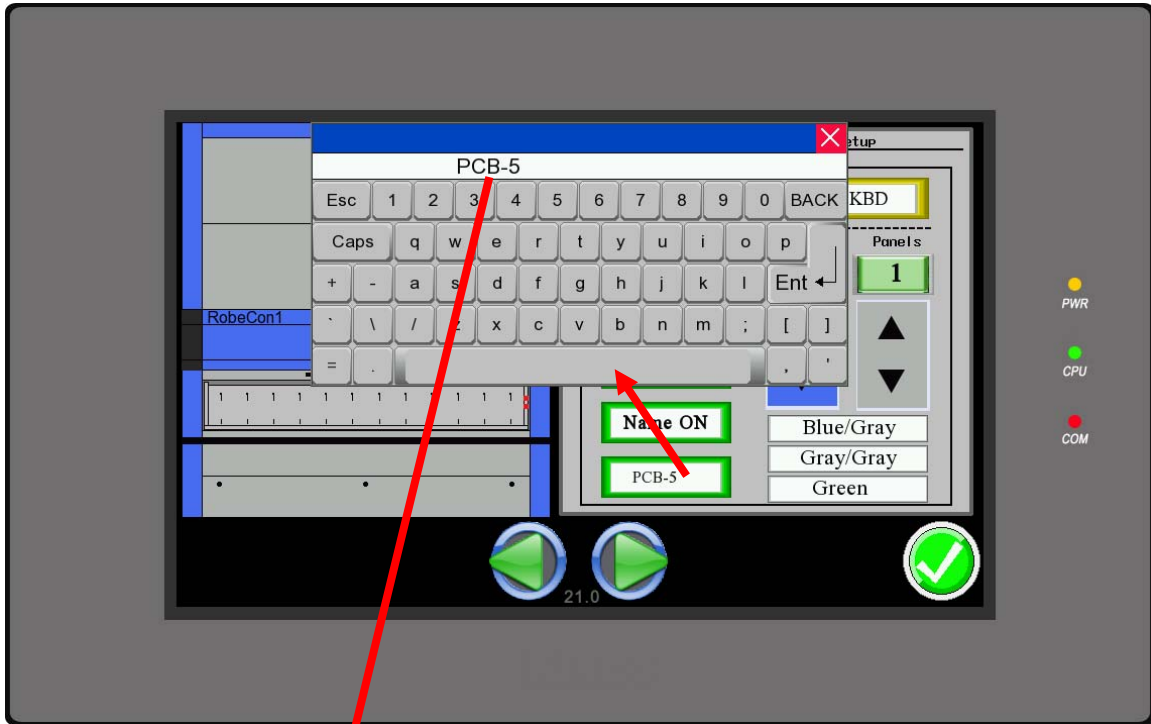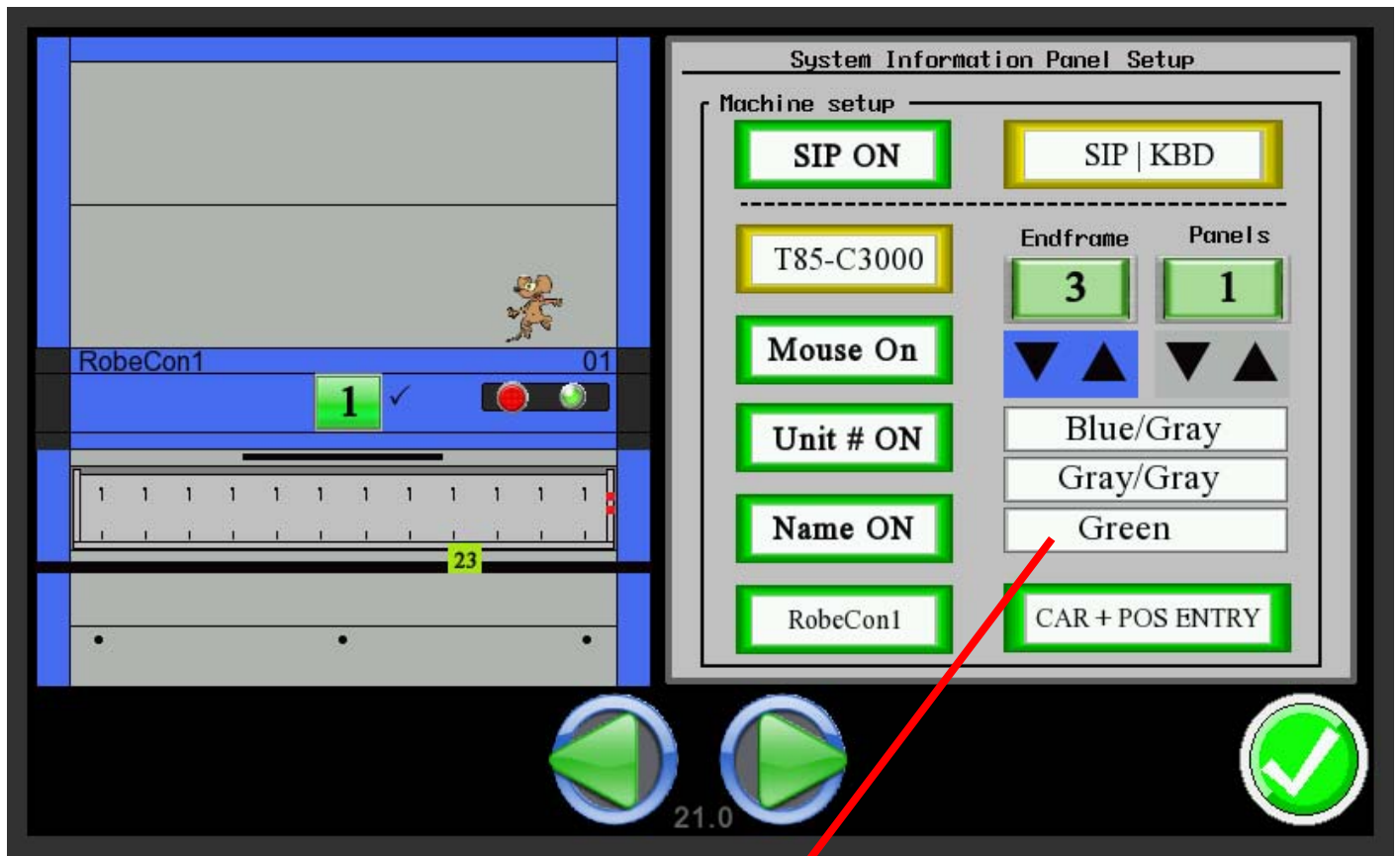
*- Device Name*

The unit Name button is used to pop-up a text keypad that can be used to define the unit's name, like shown in the example below:
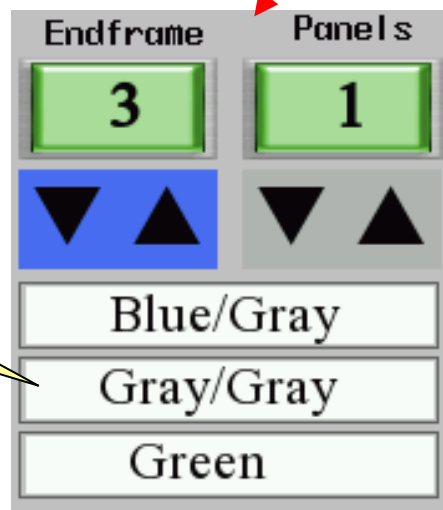
## - Endframe & Panel colors

The SIP can be set to match the color scheme of the actual carousel model, using the controls highlighted below:



Color combo macros

## - *SIP color samples*

Many (64) machine color combinations are possible using the eight color options on either the end-frames or the body of the machine.  A few default color combos are available for the common combinations.
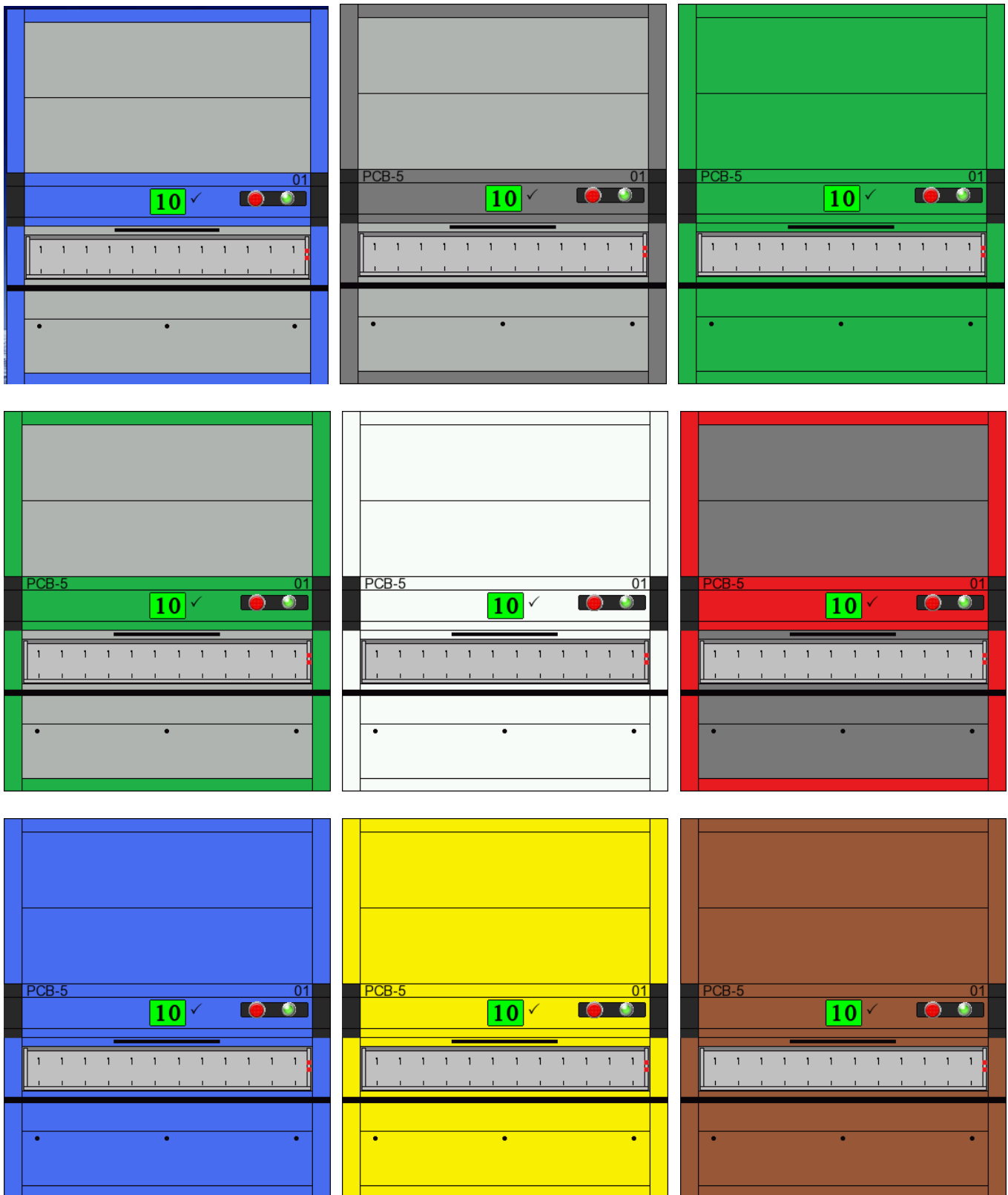
## - *CAR ENTRY verses CAR+POS ENTRY modes*

The SIP can show the approximate location for the POSITION of the product on the carrier level, or it can be set for simple "carrier only" entries.  See KEYPAD – SELECTING A CARRIER section for more information.
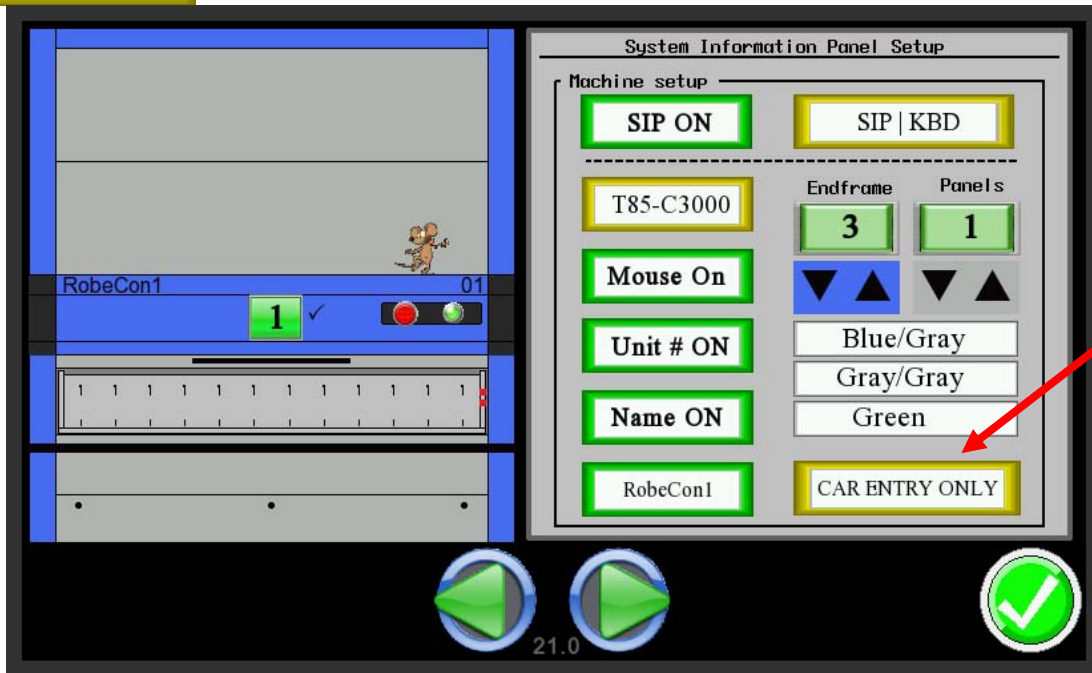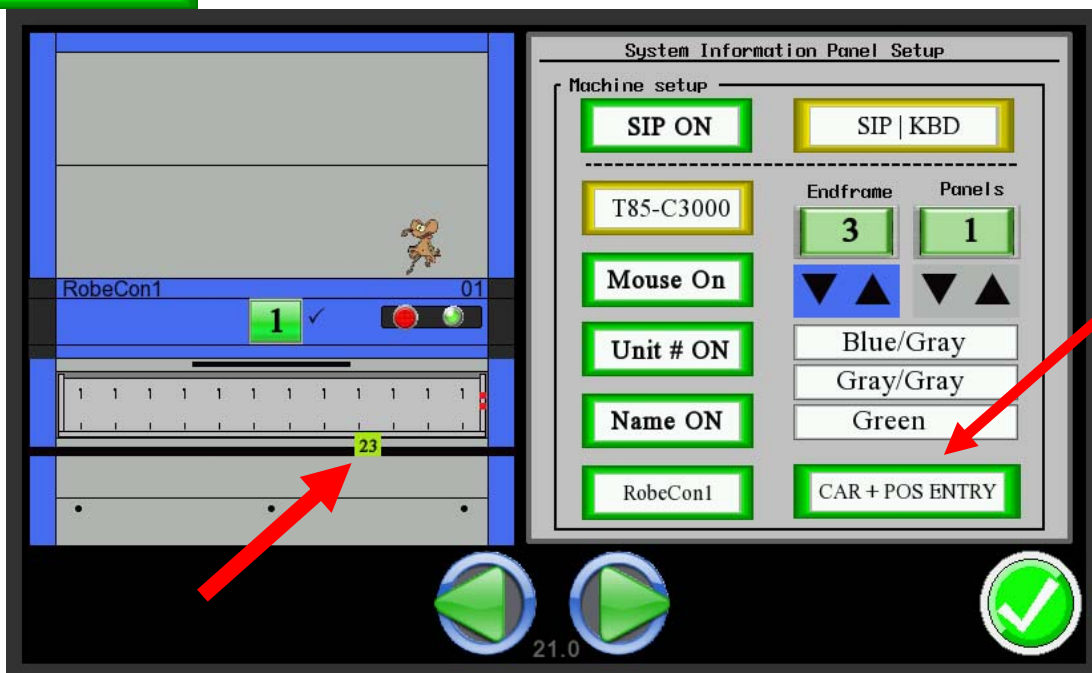
## [21.1] Touch-panel setup

### - Backlight timeout

Touch the backlight timeout field to obtain a pop-up keypad. Define the time (in minutes) to switch off the backlight during periods of inactivity.

### - Brightness for LCD

Touch the Brightness filed and set the desired brightness level for the display.
1 = Dimmest and 32 = Brightest

### - Beeper control

Touch the beeper field to obtain a pop-up keypad. Define the beeper state (off or on) as shown below.
0=OFF and 1=ON
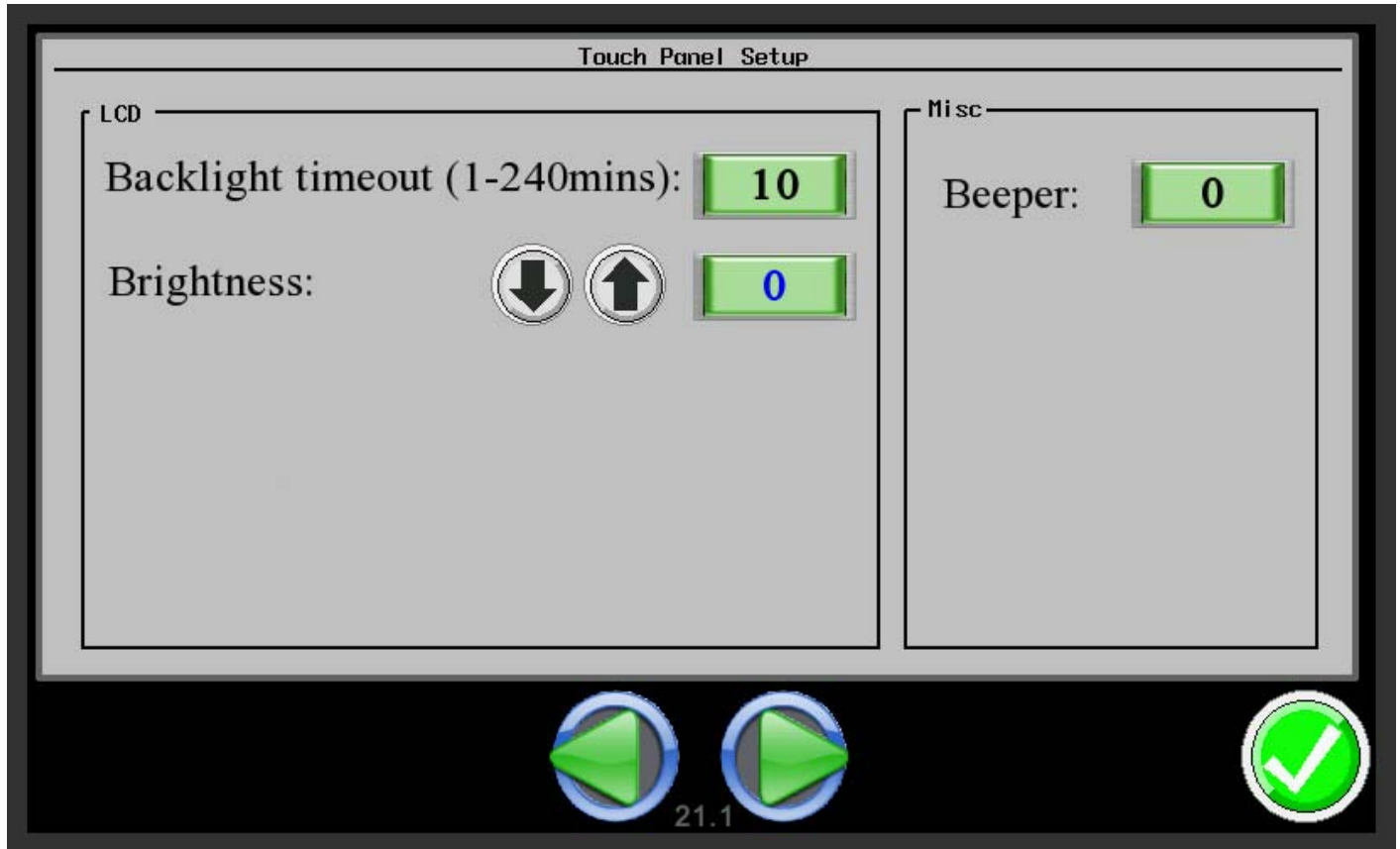
*- Touch panel calibration*

The touch panel grid can be calibrated if necessary.
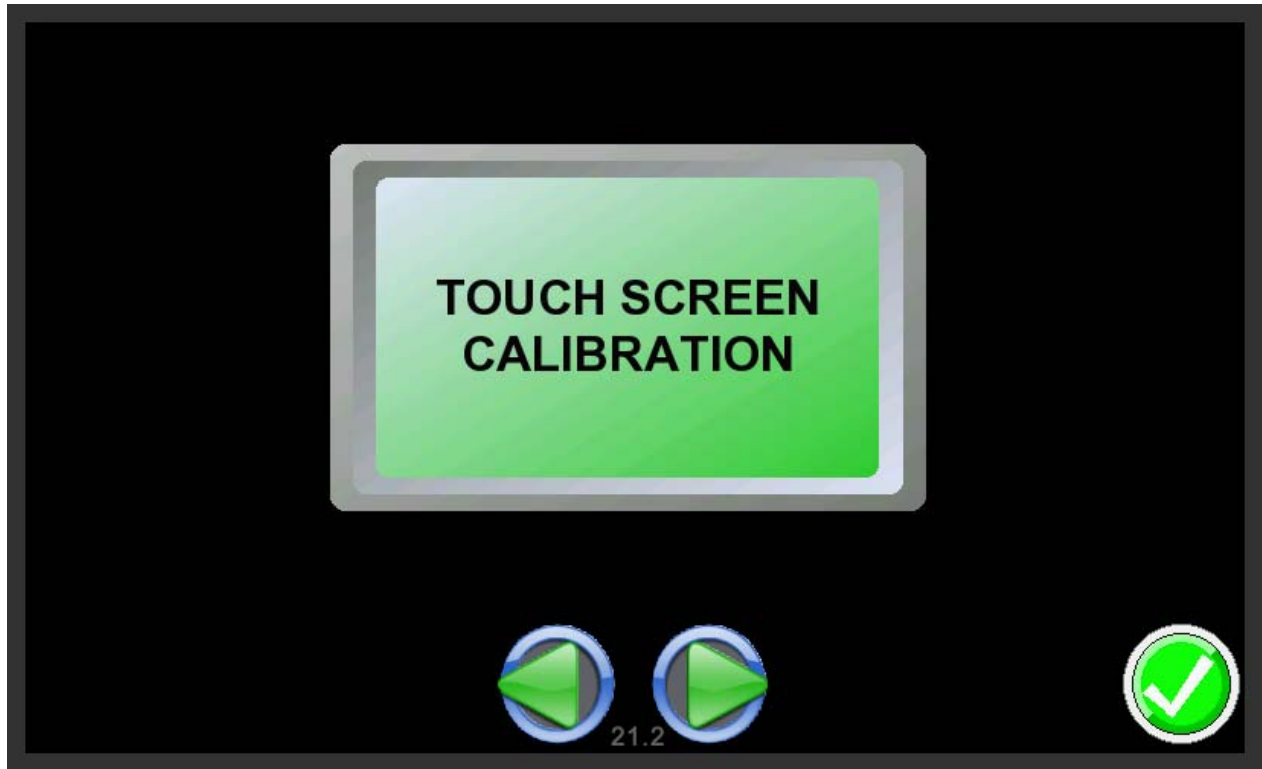
**Settings**

The SETTINGS DISPLAY menu allows the operator to adjust certain operating parameters in the controller, including establishing the home carrier number.

*[24.0] System Operator Settings*

*- Setting the home carrier number*
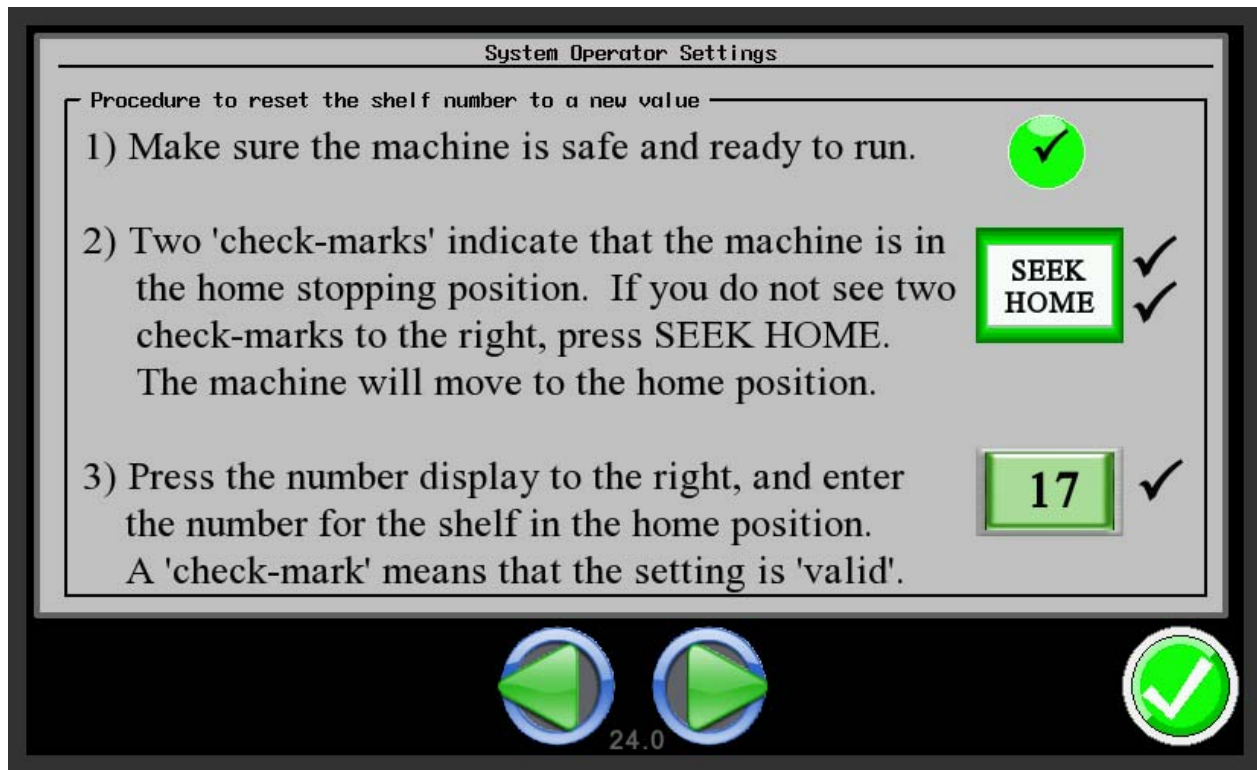


You should set a new carrier number only when the machine is in the proper stop position. Doing otherwise will establish a potentially undesired home position. You can use the two red dots in the SIP to determine when the machine is in the proper stop position, by waiting for both LEDs to be on.
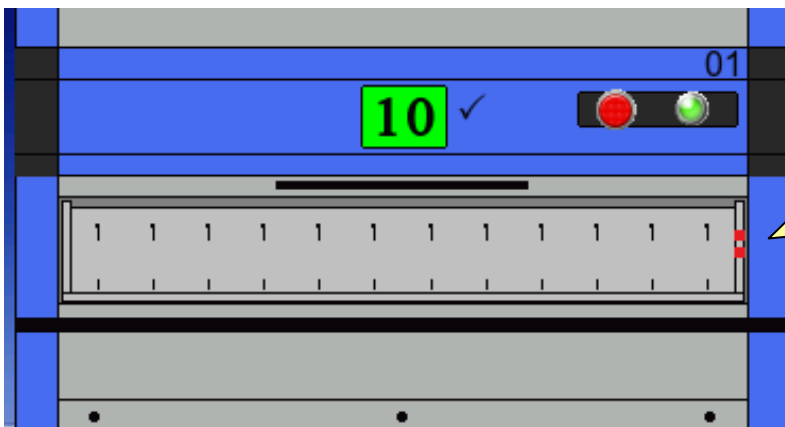


This area shows the Counter status. Normally, both LEDs should be ON before defining a new stop position!

*[24.1] Date & Time Settings*

*- Setting the date and time*



Touch the field and enter the new date / time in the format order shown.

**About**

The ABOUT menu allows the operator to view certain product and supplier related information about the controller.

*[22.0] Dealer Service Contact*

The dealer's name and service contact telephone number should be found here. Dealers, please define this information upon your initial installation.



Dealer Service Contact

Dealer Name Here

207-555-1212

22.0
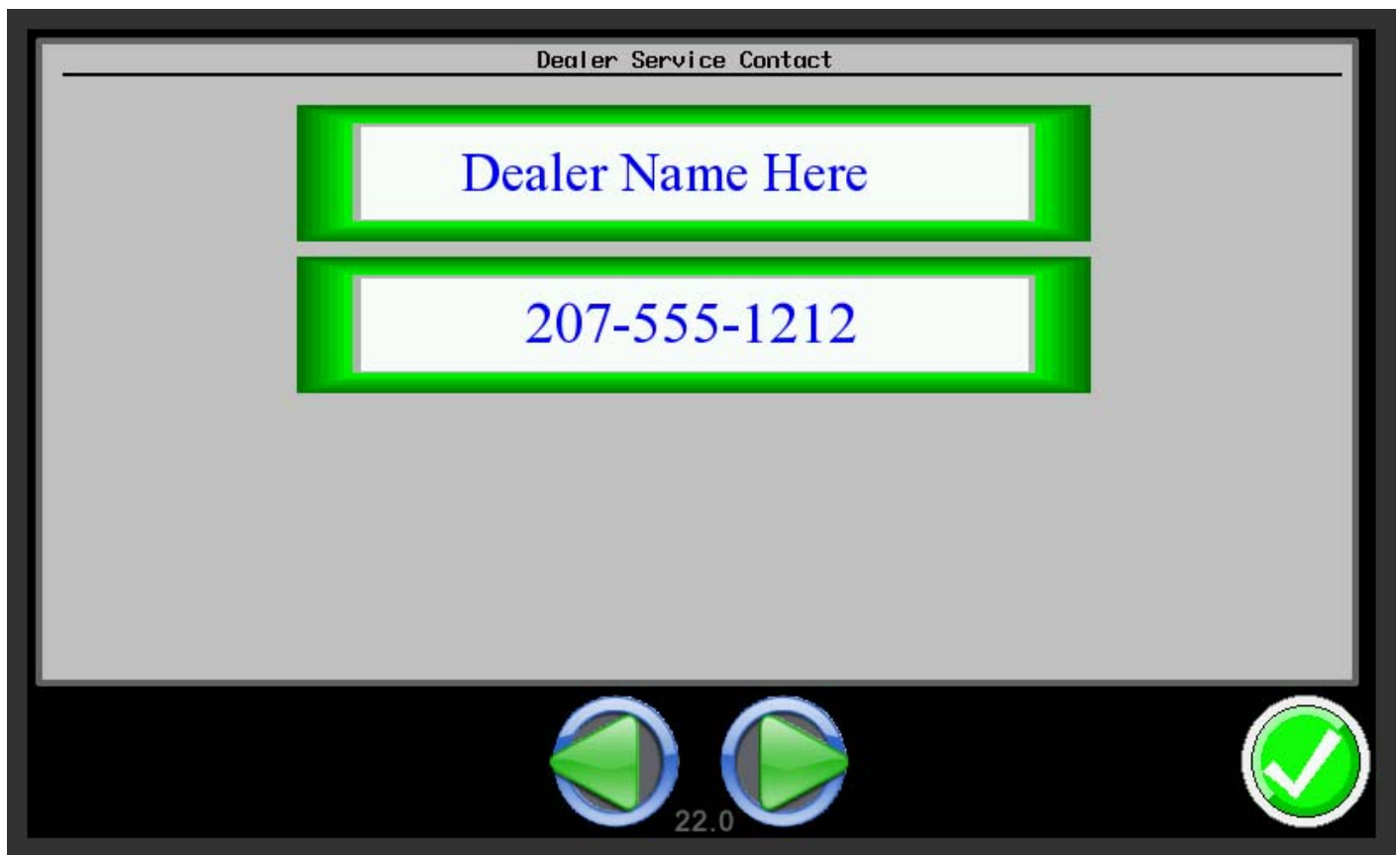
## *[22.1] Manufacturer Contact Information*

The control manufacturer's contact information can be found here.

*[22.2] System Usage Data*

The system usage data is shown below:
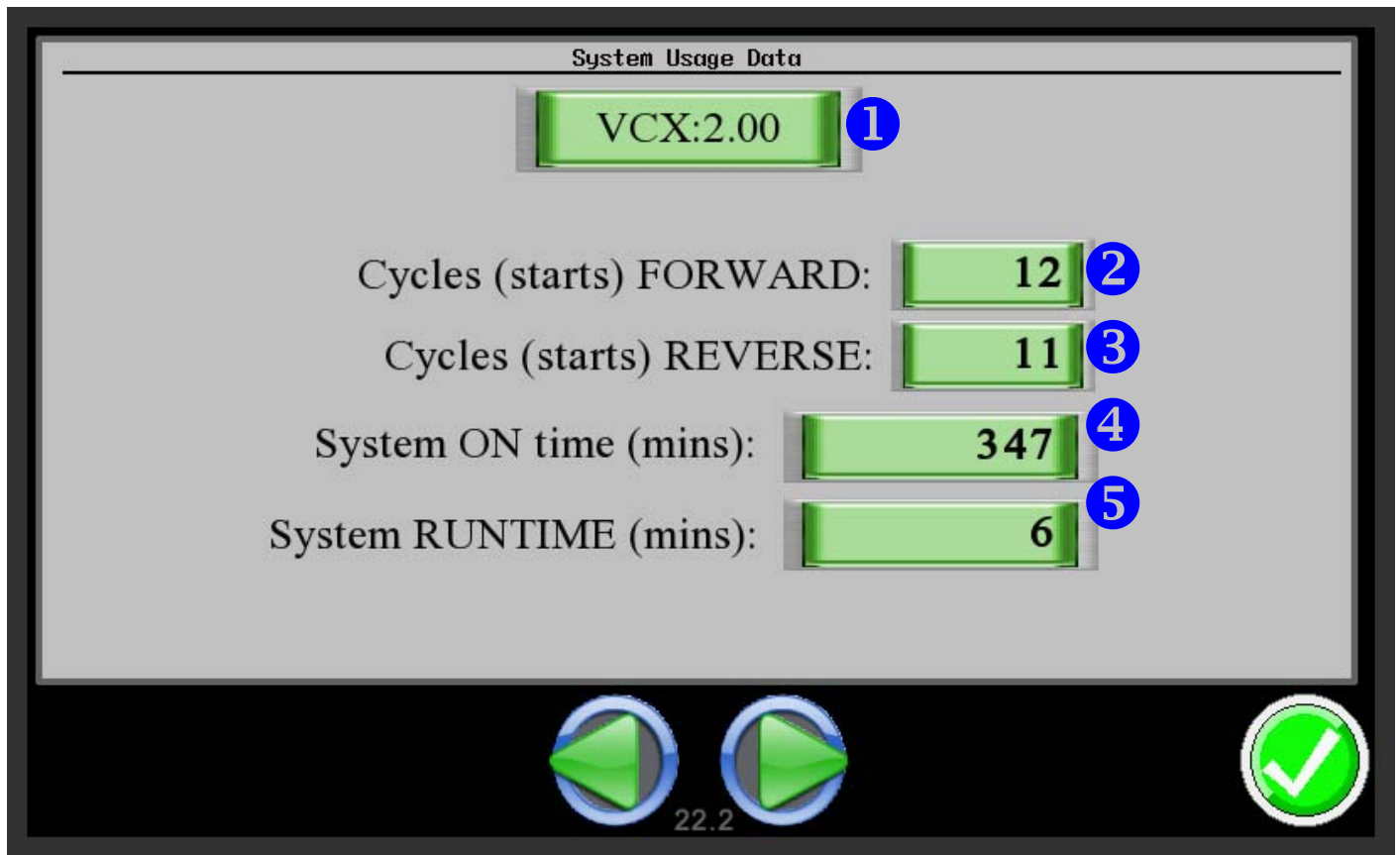


❶ The VCX field shows the program version number for the Programmable Controller. In this example, it is set as a Vertical Carousel Interface (VCX) with program revision 2.00.

❷ **Cycles FORWARD** indicates the number of times the machine has started up.

❸ **Cycles REVERSE** indicates the number of times the machine has started down.

❹ **System ON time** represents the time (in minutes) that the control power has been on.

❺ **System Runtime** represents the number of minutes that the machine has been running (with this controller).

The usage statistics can be reset to zero using the Technician SETUP menu 28.9

**Misc**

**Network**

**Setup**

**Safety**

**Motor**

The menu selections in yellow and red (shown above) are available only for trained technicians or IT professionals.  These options are covered in a separate Tech Manual.

Appendix A

**System Error Messages**

| Error # | Error | Description |
|---|---|---|
| 1 | Photocell 1 | The beam on carousel #1, left side is interrupted. |
| 2 | Photocell 2 | The beam on carousel #1, right side is interrupted. |
| 3 | Photocell 3 | The beam on carousel #2, left side is interrupted. |
| 4 | Photocell 4 | The beam on carousel #2, right side is interrupted. |
| 5 | Photocell 5 | The beam on carousel #3, left side is interrupted. |
| 6 | Photocell 6 | The beam on carousel #3, right side is interrupted. |
| 7 | Photocell 7 | The beam on carousel #4, left side is interrupted. |
| 8 | Photocell 8 | The beam on carousel #4, right side is interrupted. |
| 20 | Out of range... | The value entered is not in the valid range for this device. |
| 21 | Wrong travel direction | The machine appears to be traveling incorrectly. Contact maintenance. |
| 30 | Run timeout | The machine ran for too long without stopping. Contact maintenance. |
| 31 | Count timeout | The machine ran for too long without seeing a counter. Contact maintenance. |
| 39 | PLC Battery low warning | The battery in the controller is low. Contact maintenance. |
| 40 | VFD Over Current | The motor controller sensed too much current. Contact maintenance. |
| 41 | VFD Over Voltage | The motor controller sensed too much voltage. Contact maintenance. |
| 42 | VFD Over Temp | The motor controller is too hot. Contact maintenance. |
| 43 | VFD Overload | The motor controller is overload. Contact maintenance. |
| 44 | VFD Overload 1 | The motor controller is overload. Contact maintenance. |
| 45 | VFD Overload 2 | The motor controller is overload. Contact maintenance. |
| 46 | VFD stopped | The motor controller has a problem. Contact maintenance. |
| 47 | VFD CPU Failure 1 | The motor controller has a problem. Contact maintenance. |
| 48 | VFD CPU Failure 2 | The motor controller has a problem. Contact maintenance. |
| 49 | VFD CPU failure 3 | The motor controller has a problem. Contact maintenance. |
| 50 | VFD H/W Protection Failure | The motor controller has a problem. Contact maintenance. |
| 51 | VFD Overcurrent Accel | The motor controller required too much current while starting. Contact maintenance. |
| 52 | VFD Overcurrent Decel | The motor controller required too much current while stopping. Contact maintenance. |
| 53 | VFD Overcurrent idle | The motor controller required too much current while idle. Contact maintenance. |
| 54 | VFD Ground Fault | The motor controller has a problem. Contact maintenance. |
| 55 | VFD Low Voltage | The motor controller has insufficient incoming voltage. Contact maintenance. |
| 56 | VFD 3~ Power Loss | The motor controller does not detect all phases of power. Contact maintenance. |
| 57 | VFD Ext'l base block | The motor controller has a problem. Contact maintenance. |
| 58 | VFD Auto adjust (cFA) failure | The motor controller has a problem. Contact maintenance. |
| 59 | VFD S/W protection | The motor controller has a problem. Contact maintenance. |
| 60 | VFD interface? | The motor controller cannot be found. Contact maintenance. |
| 70 | E-Stop button? | The Emergency stop button appears to be pressed. Twist to release it when ready. |
| 101 | Photocell 1 | The beam on the carousel top is interrupted. |
| 102 | Photocell 2 | The beam on the carousel bottom is interrupted. |
| 103 | Photocell 3 | The beam on the carousel (          ) is interrupted. |
| 104 | Photocell 4 | The beam on the carousel (          ) is interrupted. |
| 120 | Out of range... | The value entered is not in the valid range |
| 130 | Door Left | The left side of the sliding door is out of position |
| 131 | Door Right | The right side of the sliding door is out of position |
| 132 | Access Panel | The lower service panel is not closed properly |
| 133 | Hand Crank | The access area for the motor hand-crank is not secured. |

| 134 | EStop Button | The Emergency stop button #1 appears to be pressed. Twist to release. |
|---|---|---|
| 135 | EStop Button 2 | The Emergency stop button #2 appears to be pressed. Twist to release. Check VSX:X6 if Button #2 does not exist. |
| 136 | Check VSX:X7 | Special Input #7 (                    ) appears to be violated. |
| 137 | Check VSX:X8 | Special Input #8 (                    ) appears to be violated. |
| 138 | Check motor temp/overload | The motor appears to be too hot, or the over-current sensor has tripped. Call maintenance. |
| 139 | Check motor temp | The motor appears to be too hot. Call maintenance. |
| 140 | Light Curtain | The Light Curtain seems to be tripped. Clear obstruction and press reset. |
| 141 | Light Curtain K2 | The Light curtain has a redundancy error. Cycle power or call maintenance. |
| 142 | Light Curtain K1 | The Light curtain has a redundancy error. Cycle power or call maintenance. |
| 144 | SoftStart failure | The motor starter has failed.  Call maintenance |
| 145 | K1 Contactor fail | Safety contactor not operating correctly. Contact maintenance. |
| 146 | K2 Contactor fail | Safety contactor not operating correctly. Contact maintenance. |
| 147 | K3 Contactor fail | DOWN contactor not operating correctly |
| 148 | K4 Contactor fail | Brake contactor not operating correctly |
| 149 | PLC Battery low | The battery in the controller is low. Contact maintenance. |
| 150 | Press RESET | Press the Green RESET button to activate safety system |
| 151 | VSX Module? | The Vertical Safety Interface module can not be found. Call maintenance |
| 152 | Drive Hot, Stand by… | The motor controller is too hot and is cooling down, stand by until it resets. |
| 153 | Stop resistor? | The dynamic braking resistor (big green resistor) is not detected. |
| 154 | VFD Faulted | The Variable Frequency Drive indicates a fault. |
| 155 | 24V Power Supply? | The power supply in the controller is not detected. |
| 156 | Door not ready | The door is not open, or neither side is in the proper run position. |
| 157 | SRM? | The Safety Relay Module is not detected. |
| 158 | System Startup | The system has restarted and requires the Green Reset button to be pressed, after confirming that the machine is safe to operate, including checking the surrounding area.  Make sure that maintenance is not working inside the unit. |
| 160 | Safety Check Due Now! | The SYS-CHECK routine must now be performed.  See 'SYS-CHECK' description elsewhere in this manual |
| 161 | VFD Motor parameters do not match | The parameter settings for the Motor data between the setup page and the actual VFD do not match.  Call for service |
| 162 | VFD Ramp parameters do not match | The parameter settings for the Motor accel & decel rates between the setup page and the actual VFD do not match.  Call for service |
| 163 | VFD Not Found | The Motor control can not be detected. Call for service. |
| 198 | PLC Initialized | The controller has been set to factory defaults. |
| 199 | System start | The controller has been started. |
| 200 | PN Server not found | The optional PartPic Part Number server is not found |