QuickPanel+™

OPERATOR INTERFACE

USER MANUAL

IC755CxS06RDx (6" Display)

IC755CxW07CDx (7" Display)

IC755CxS10CDx (10" Display)

IC755CxS12CDx (12" Display)

IC755CxS15CDx (15" Display)

EMERSON.

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Warnings and Caution Notes as Used in this Publication

⚠ WARNING

Warning notices are used in this publication to emphasize that hazardous voltages, currents, temperatures, or other conditions that could cause personal injury exist in this equipment or may be associated with its use.

In situations where inattention could cause either personal injury or damage to equipment, a Warning notice is used.

⚠ CAUTION

Caution notices are used where equipment might be damaged if care is not taken.

> *Note:* *Notes merely call attention to information that is especially significant to understanding and operating the equipment.*

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Section 1:   Overview

Note: *This manual specifically describes the* QuickPanel⁺ IC755CxS06RDx, IC755CxWxxCDx and IC755CxSxxCDx display units.

The QuickPanel⁺ Operator Interface is an all-in-one micro-computer designed for maximum flexibility. The design is based on an Advanced RISC Machine (ARM) core micro-processor to combine a high-resolution touchscreen operator interface with a variety of communications options. Users can connect to most industrial equipment using the QuickPanel⁺ communications ports.

The QuickPanel⁺ is equipped with several memory types to satisfy the most demanding applications. A section of Dynamic Random Access Memory (DRAM) is split between the operating system, an object store, and application memory. Additionally, a section of Non-volatile Random Access Flash Memory (NOVRAM), functioning as a virtual hard drive, is divided between the operating system and persistent storage for application programs. Retentive memory is a battery-backed Static Random Access Memory (SRAM) to store and protect data during a power failure.

Figure 1: QuickPanel⁺ Operator Interface Display

1.1   Specifications

1.1.1   Physical Specifications and Mounting Options

IC755CxS06RDx Specifications

Item		Specification
Processor		Freescale i.MX535 (1 GHz ARM Cortex A8)
Memory	RAM	DDR3 SDRAM 512 MB
	ROM	NAND FLASH 256 MB(IC755CxS06RDx-Ax)
		NAND FLASH 512 MB(IC755CxS06RDx, -Bx, -Cx)
	SRAM	512 KB (with battery backup)
Operating System		Microsoft Windows Embedded Compact 7
Display	Type	5.7" TFT LCD
	Resolution	320(W) x 240(H) pixels QVGA
	Color	65,536
	Brightness	375 cd/m^2
	Backlight	LED
Touchscreen	Touch Panel Type	Analog Resistive
	Multi-touch	Single-touch
Communications	Ethernet Port	1x10Base-T / 100Base-TX
	Serial Port	1x RS-232C (COM1) (5-pin connector)
	USB, Host	2x USB 2.0 (Type-A) maximum power (5 V at 0.5 A)
	USB, Device	1x USB 2.0 (mini Type-B)
Storage		1x SD/SDHC card slot
Audio		1x Mic In (Mono) (3.5 mm jack),
		1x Line Out (Stereo) (3.5 mm jack)
Noise Immunity	Noise Voltage	1500 V p-p
	Pulse Duration	1µs
	Rise Time	1ns
Input power	Rated Voltage	24 Vdc ±20% (3-pin connector)
	Power Consumption	15 W maximum
	Frame Ground (FG)	Frame Ground (GND) is connected internally to Signal GND
Dimensions (L×W×D)		192 × 137 × 36 mm (7.56 × 5.39 × 1.42 in)
Weight		0.7 Kg (1.54 lb.)
Mounting Options	Panel Cutout Dimensions	183.50 × 128.50 mm (7.22 × 5.06 in)
	VESA Mount	75 x 75 mm (2.95 x 2.95 in)

IC755CxW07CDx Specifications

Item		Specification
Processor		Freescale i.MX535 (1 GHz ARM Cortex A8)
Memory	RAM	DDR2 SDRAM 512 MB (IC755CxW07CDx-Ax, -Bx, -Cx) DDR3 SDRAM 512 MB (IC755CxW07CDx-Dx, -Ex)
	ROM	SLC NAND 256 MB (IC755CxW07CDx-Ax, -Bx, -Cx) SLC NAND 512 MB (IC755CxW07CDx-Dx, -Ex)
	SRAM	512 KB (with battery backup)
Operating System		Microsoft Windows Embedded Compact 7
Display	Type	7" Widescreen TFT LCD
	Resolution	800(W) x 480(H) pixels WVGA
	Color	65,536
	Brightness	310 cd/m^2
	Backlight	LED
Touchscreen	Touch Panel Type	Projected capacitive
	Multi-touch	Two-point
Communications	Ethernet Port	1x 10/100Base-T (RJ-45)
	Serial Port	1x RS-232 UART port (5-pin connector)
	USB, Host	2x USB 2.0 (Type-A) maximum power (5 V at 0.5 A)
	USB, Device	1x USB 2.0 (mini Type-B)
Storage		1x SD/SDHC card slot
Audio		1x Mic In (Mono) (3.5 mm jack) 1x Line Out (Stereo) (3.5 mm jack)
Noise Immunity	Noise voltage	1500 V p-p
	Pulse duration	1µs
	Rise time	1ns
Input power	Rated Voltage	24 Vdc ±20% (3-pin connector)
	Power Consumption	15 W maximum, 0.625 A
	Frame Ground (FG)	Frame GND is connected internally to Signal GND
Dimensions (L×W×D)		192 × 137 × 36 mm (7.56 × 5.39 × 1.42 in)
Weight		0.80 kg (1.76 lbs.)
Mounting Options	Panel Cutout Dimensions	183.50 × 128.50 mm (7.22 × 5.06 in)
	VESA Mount	75 x 75 mm (2.95 x 2.95 in)

IC755CxS10CDx Specifications

Item		Specification
Processor		Freescale i.MX535 (1 GHz ARM Cortex A8)
Memory	RAM	DDR3 SDRAM 1 GB
	ROM	SLC NAND 512 MB
	SRAM	512 KB (with battery backup)
Operating System		Microsoft Windows Embedded Compact 7
Display	Type	10.5" Standard TFT LCD
	Resolution	800(W) x 600(H) pixels SVGA
	Color	65,536
	Brightness	400 cd/m^2
	Backlight	LED
Touchscreen	Touch Panel Type	Projected capacitive
	Multi-touch	Two-point
Communications	Ethernet Port	2x 10/100Base-T (RJ-45)
	Serial Port	1x RS-232 UART port 1x RS-232/485 port (2x 5-pin connector)
	USB, Host	2x USB 2.0 (Type-A) maximum power (5 V at 0.5 A)
	USB, Device	1x USB 2.0 (mini Type-B)
Storage		1x SD/SDHC card slot
Audio		1x Line Out (Stereo) (3.5 mm jack)
Noise Immunity	Noise voltage	1500 V p-p
	Pulse duration	1µs
	Rise time	1ns
Input power	Rated Voltage	12/24 Vdc ±20% (3-pin connector)
	Power Consumption	18 W maximum 1.5 / 0.75 A
	Frame Ground (FG)	Frame GND is connected internally to Signal GND
Dimensions (L×W×D)		278 × 222 × 65 mm (10.95 × 8.74 × 2.56 in)
Weight		2.40 kg (5.29 lbs.)
Mounting Options	Panel Cutout Dimensions	266 × 210 mm (10.47 × 8.27 in)
	VESA Mount	100 x 100 mm (3.94 x 3.94 in)

IC755CxS12CDx Specifications

Item		Specification
Processor		Freescale i.MX535 (1 GHz ARM Cortex A8)
Memory	RAM	DDR3 SDRAM 1 GB
	ROM	SLC NAND 512 MB
	SRAM	512 KB (with battery backup)
Operating System		Microsoft Windows Embedded Compact 7
Display	Type	12.1" Standard TFT LCD
	Resolution	800(W) x 600(H) pixels SVGA
	Color	65,536
	Brightness	450 cd/m^2
	Backlight	LED
Touchscreen	Touch Panel Type	Projected capacitive
	Multi-touch	Two-point
Communications	Ethernet Port	2x 10/100Base-T (RJ-45) 1x 10/100Base-T (RJ-45) for IC755CxS12CDA
	Serial Port	1x RS-232 UART port 1x RS-232/485 port (2x 5-pin connector) (1x 10-pin connector for IC755CxS12CDA)
	USB, Host	2x USB 2.0 (Type-A) max power (5 V at 0.5 A)
	USB, Device	1x USB 2.0 (mini Type-B)
Storage		1x SD/SDHC card slot
Audio		1x Line Out (Stereo) (3.5 mm jack)
Noise Immunity	Noise voltage	1500 V p-p
	Pulse duration	1µs
	Rise time	1ns
Input power	Rated Voltage	12/24 Vdc ±20% (3-pin connector)
	Power Consumption	30 W maximum, 2.5 / 1.25 A
	Frame Ground (FG)	Frame GND is connected internally to Signal GND
Dimensions (L×W×D)		314 × 248 × 65 mm (12.36 × 9.76 × 2.56 in)
Weight		3 kg (6.61 lbs.)
Mounting Options	Panel Cutout Dimensions	302 × 228 mm (11.89 × 8.98 in)
	VESA Mount	100 x 100 mm (3.94 x 3.94 in)

IC755CxS15CDx Specifications

Item		Specification
Processor		Freescale i.MX535 (1 GHz ARM Cortex A8)
Memory	RAM	DDR3 SDRAM 1 GB
	ROM	SLC NAND 512 MB
	SRAM	512 KB (with battery backup)
Operating System		Microsoft Windows Embedded Compact 7
Display	Type	15" Standard TFT LCD
	Resolution	1024(W) x 768(H) pixels XGA
	Color	65,536
	Brightness	310 cd/m^2
	Backlight	LED
Touchscreen	Touch Panel Type	Projected capacitive
	Multi-touch	Two-point
Communications	Ethernet Port	2x 10/100Base-T (RJ-45)
	Serial Port	1x RS-232 UART port 1x RS-232/485 port (2x 5-pin connector)
	USB, Host	2x USB 2.0 (Type-A) maximum power (5 V at 0.5 A)
	USB, Device	1x USB 2.0 (mini Type-B)
Storage		1x SD/SDHC card slot
Audio		1x Line Out (Stereo) (3.5 mm jack)
Noise Immunity	Noise voltage	1500 V p-p
	Pulse duration	1µs
	Rise time	1ns
Input power	Rated Voltage	12/24 Vdc ±20% (3-pin connector)
	Power Consumption	30 W maximum, 2.5 / 1.25 A
	Frame Ground (FG)	Frame GND is connected internally to Signal GND
Dimensions (L×W×D)		399 × 323 × 70 mm (15.71 × 12.72 × 2.76 in)
Weight		4.46 kg (9.83 lbs.)
Mounting Options	Panel Cutout Dimensions	379 × 305 mm (14.92 × 12.01 in)
	VESA Mount	100 x 100 mm (3.94 x 3.94 in)

1.1.2 Environmental Specifications

Note: *Install the QuickPanel⁺ in a well-ventilated location that is not exposed to dust, corrosive gases or liquids, rain, strong ultra-violet light, or direct sunlight, and meets the following specifications.*

Item	IC755CxS06RDx	IC755CxW07CDx	IC755CxS10CDx	IC755CxS12CDx	IC755CxS15CDx
Cooling	Natural convection				
Ambient Operating Temperature	0 to 55°C (32 to 131 °F)				
Ambient Storage Temperature	-10 to 60°C (14 to 140 °F)				
Ambient Humidity (Operating and Storage)	90% RH Non-condensing, wet-bulb temperature: 30°C (86 °F) or less				
Environment	Pollution Degree 2, Indoor use only				
Vibration Resistance	5 to 9 Hz single-amplitude 3.5 mm; 9 to 150 Hz constant-accelerated velocity 9.8m/s^2; X, Y, Z directions 10 time (100 minutes) (Compliance 3502, IEC61131-2 JIS B)				
Altitude	800~1114 hPa, altitude up to 2000 m (6561.68 ft)				
RoHS	Compliant with EU RoHS Directive 2011/65/EU				
Enclosure Rating	UL Type 4X rating; IP65 in panel mount only				

Note: *For additional product standards and agency approvals, refer to Appendix A.*

1.2 Glossary

ARM	Advanced RISC Machine
BBSRAM	Battery-backed SRAM
DRAM	Dynamic Random Access Memory
FG	Frame Ground
FTP	File Transfer Protocol
GND	Ground
GUI	Graphical user interface
HTTP	HyperText Transfer Protocol
IANA	Internet Assigned Numbers Authority
LCD	Liquid Crystal Display
LED	Light-emitting Diode

MIB	Management Information Base (or Database)
OS	Operating System
PME	PAC Machine Edition
RoHS	Restrictions on Hazardous Substances
SELV	Safety Extra Low Voltage
SNMP	Simple Network Management Protocol
USB	Universal Serial Bus
VESA	Video Electronics Standards Association

1.3   Revisions in this Manual

Rev	Date	Description
AB	Apr 2023	Corrected QP+ DIP switch 8 to "ON" in Section 4.5 Firmware Updates.
AA	Jan 2023	Updated QP+ DIP Switch settings to include 7" DDR3 Models
Z	Jul 2022	• Updated Ambient/ Storage Humidity to 90% RH • Added HTTP Server - QP$^+$ can have max "16"(different IP Address) web connections. • Added VNC Server - Only One VNC client can connect to VNC Server on QP$^+$. • Added Screensaver - Screensaver is not supported on QP$^+$ 6" Inch and 7" Inch.
Y	Oct 2019	Following Emerson's acquisition of this product, changes have been made to apply appropriate branding and registration of the product with required certification agencies. No changes to the material, process, form, fit, or functionality.
X	Jun-2018	• Reformat to produce a table of contents and navigation for PDF.
W	Dec-2017	• Updated ATEX Directive to 14/34/EU • Removed ATEX protection string - refer to the QuickPanel$^+$ Operator Interface • Installation and Maintenance Requirements (IMR) (GFK-2981) • Added the procedure for USB retaining clamps used in hazardous location installations for 7" Display units.

1.4   PACSystems Documentation

PACSystems Manuals

PACSystems RX7i, RX3i, and RSTi-EP CPU Reference Manual	GFK-2222
PACSystems RX7i, RX3i, and RSTi-EP CPU Programmer's Reference Manual	GFK-2950
PACSystems RX7i, RX3i, and RSTi-EP TCP/IP Ethernet Communications User Manual	GFK-2224
PACSystems TCP/IP Ethernet Communications Station Manager User Manual	GFK-2225
C Programmer's Toolkit for PACSystems	GFK-2259
PAC Machine Edition Logic Developer Getting Started	GFK-1918
PAC Process Systems Getting Started Guide	GFK-2487
PACSystems RXi, RX3i, RX7i, and RSTi-EP Controller Secure Deployment Guide	GFK-2830

RX3i Manuals

PACSystems RX3i System Manual	GFK-2314
PACSystems RX3i Ethernet Network Interface Unit User's Manual	GFK-2439
PACSystems RX3i Serial Communications Modules User's Manual	GFK-2460

RX7i Manuals

PACSystems RX7i Installation Manual	GFK-2223
PACSystems RX7i User's Guide to Integration of VME Modules	GFK-2235

Field Agent Manuals

Field Agents User Guide	GFK-2993
Field Agents Upgrade Guide	GFK-3017

In addition to these manuals, datasheets and product update documents describe individual modules and product revisions. The most recent PACSystems documentation is available on the Emerson support website http://www.Emerson.com/Industrial-Automation-Controls.

Section 2: Hardware

This Section describes the QuickPanel+ hardware features, including physical characteristics and LED indicators.

2.1 Physical Characteristics

In addition to the primary touchscreen interface, the QuickPanel+ Operator Interface supports a variety of communication ports. The following diagrams illustrate the physical layout of the QuickPanel+ Operator Interface, including locations of status LEDs, communications ports, and connectors.
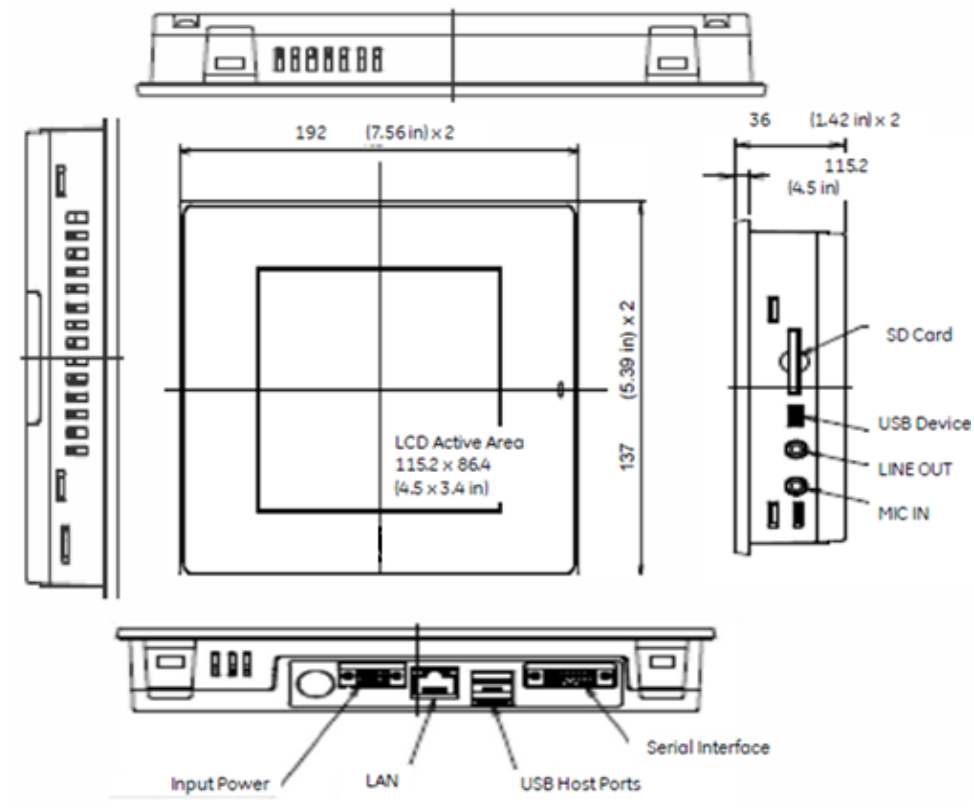
Figure 2: 4-Sided View of IC755CxS06RDx

Figure 3: Rear View & Dimensions IC755CxS06RDx
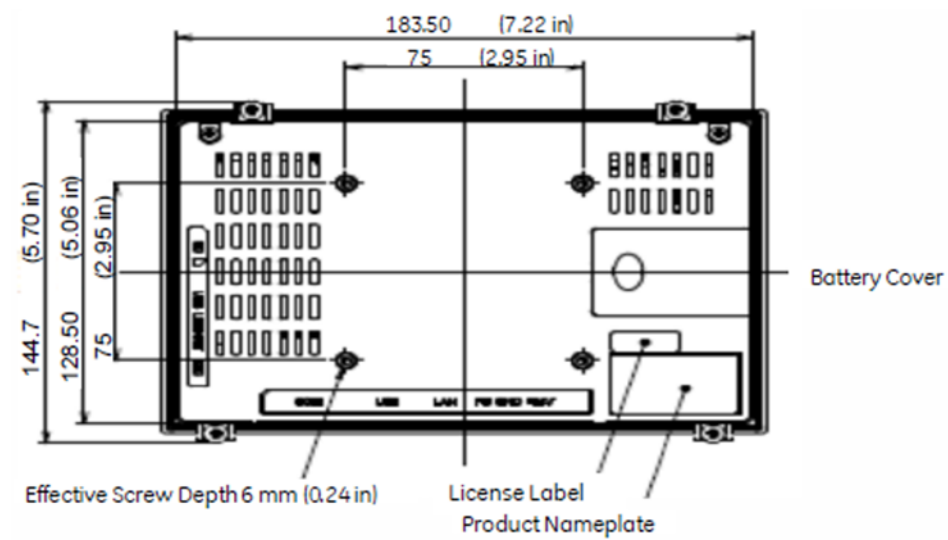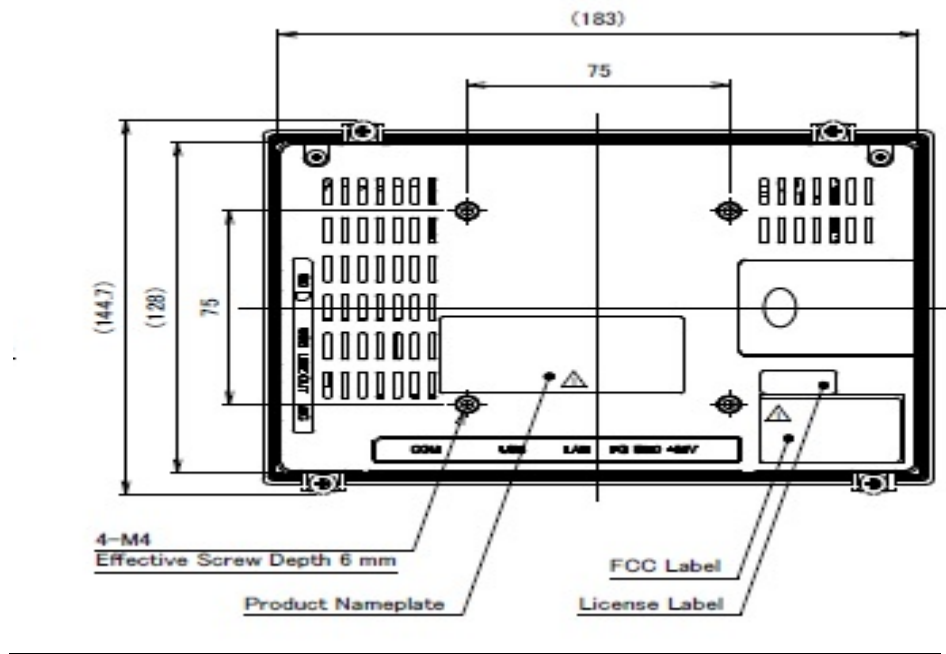

Figure 4: 4-Sided View IC755CxW07CDx
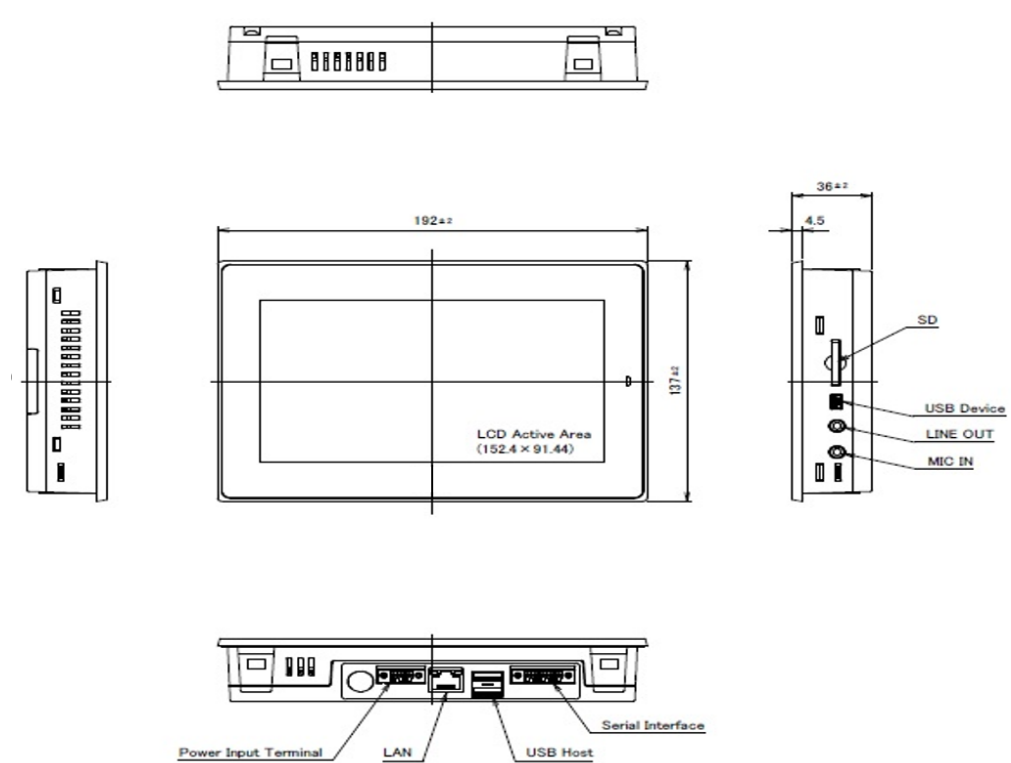
Figure 5: Rear View IC755CxW07CDx

Note: *Refer to the section IC755CxW07CDx Specifications for drawing dimensions*

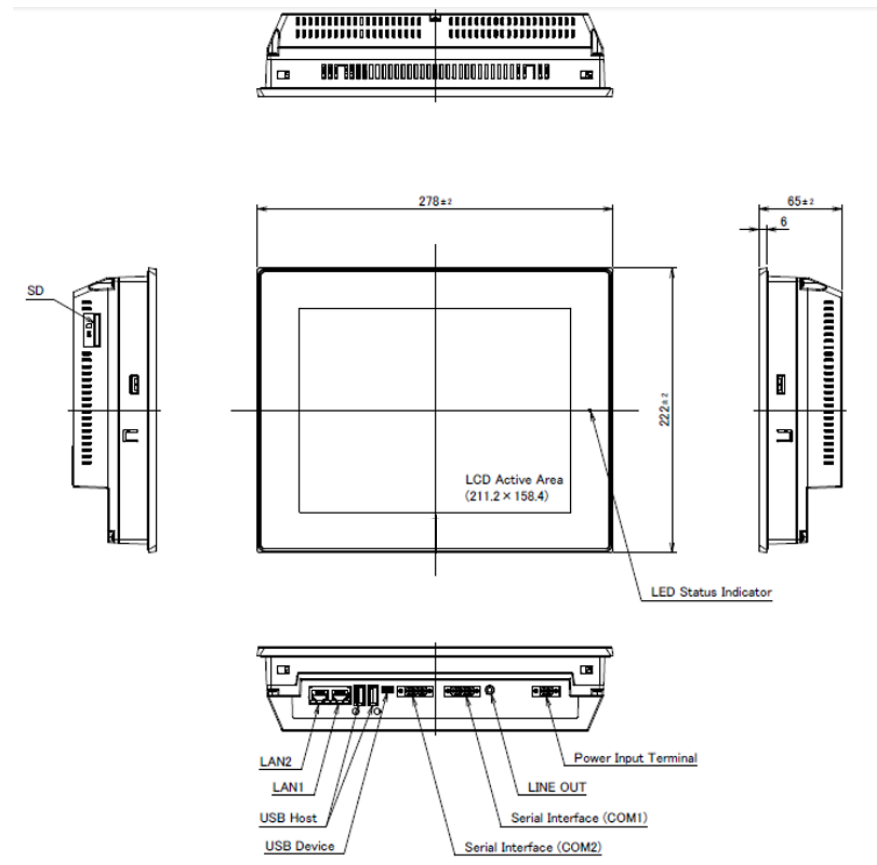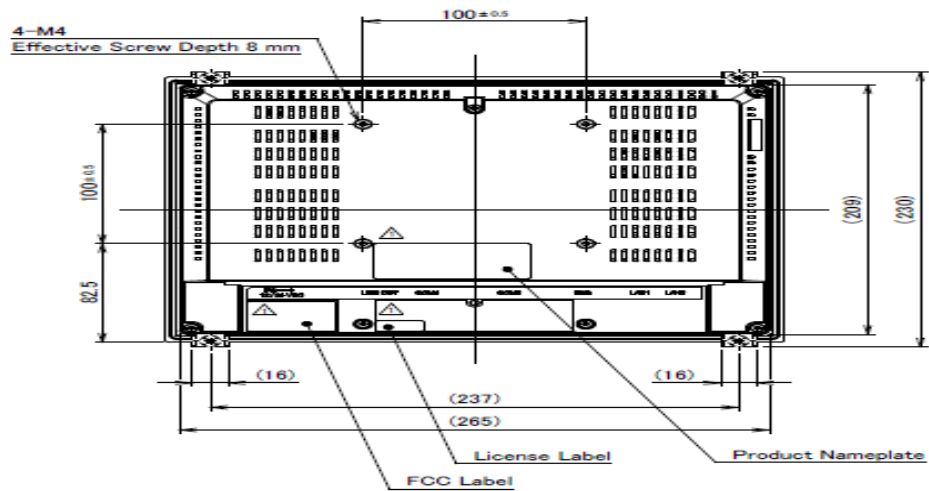**Figure 6: 4-Sided View IC755CxS10CDx**

Figure 7: Rear View IC755CxS10CDx

Note: Refer to the *Section1.1.1,* Physical Specifications and Mounting Options*, Subsection* IC755CxS12CDx Specifications for drawing dimensions.
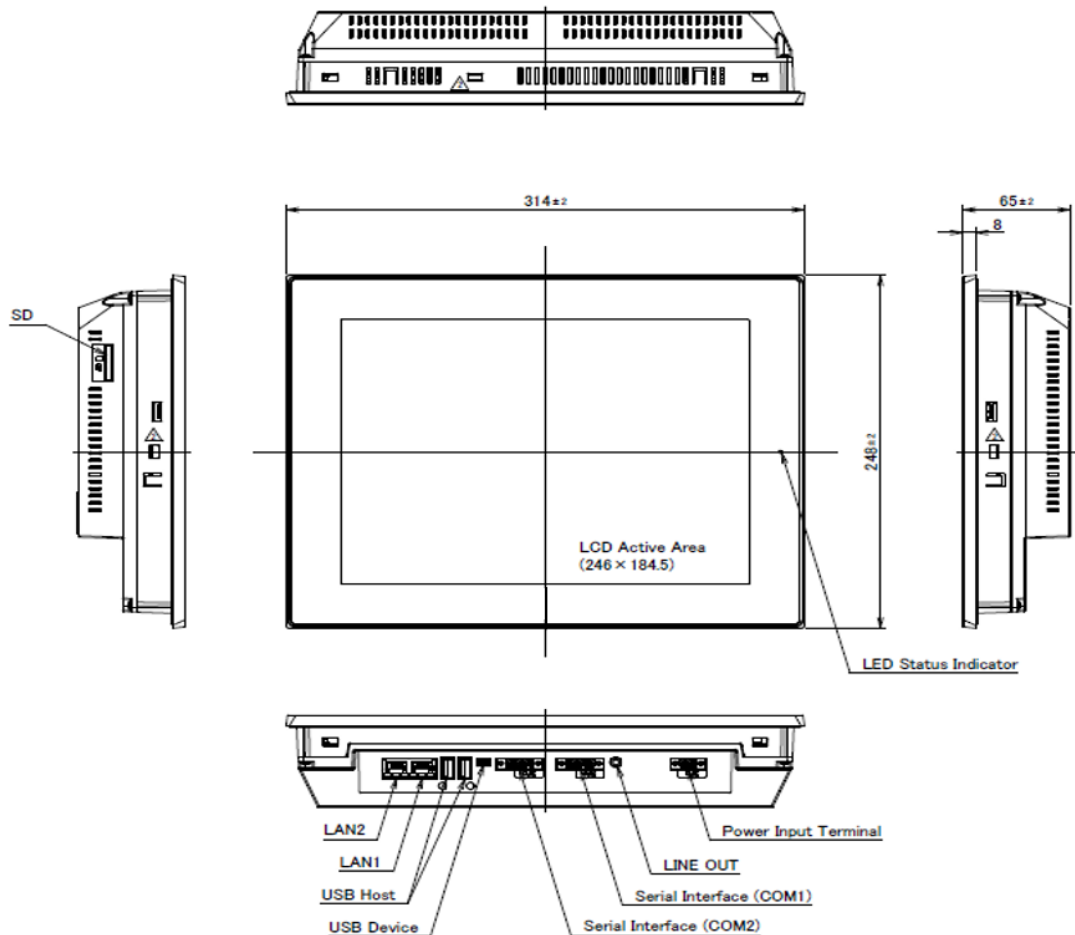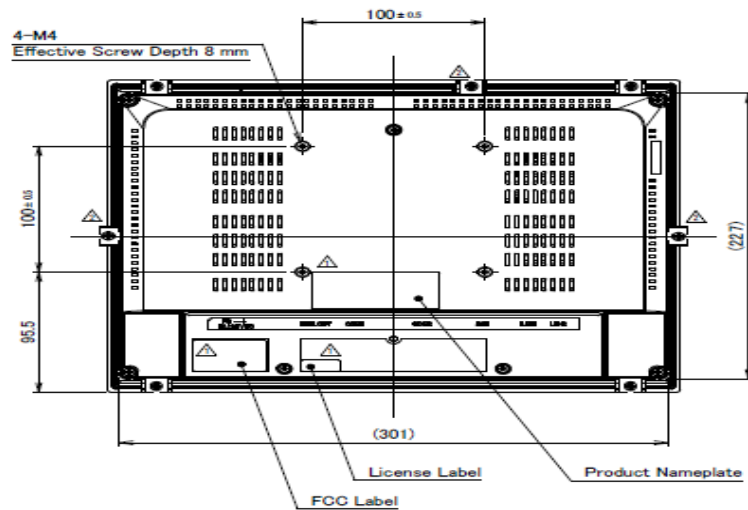
Figure 8: 4-Sided View IC755CxS12CDx

Figure 9: Rear View IC755CxS12CDx

Note: Refer to the section *IC755CxS12CDx Specifications* for drawing dimensions.
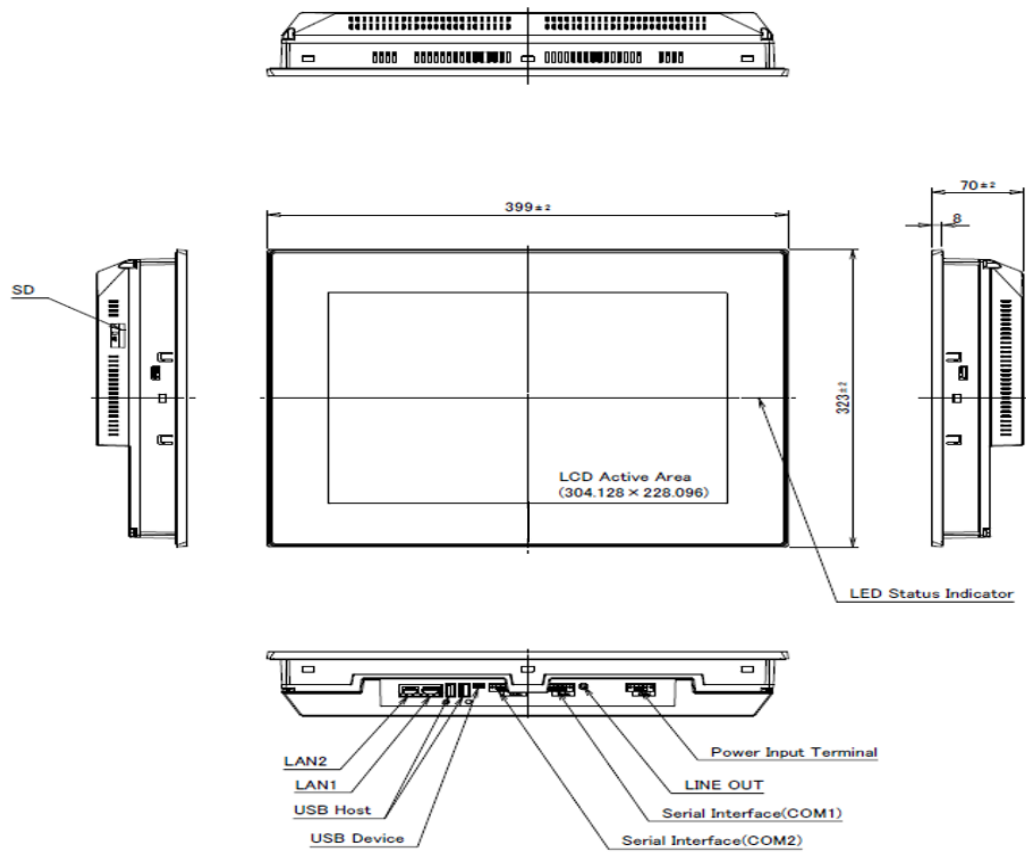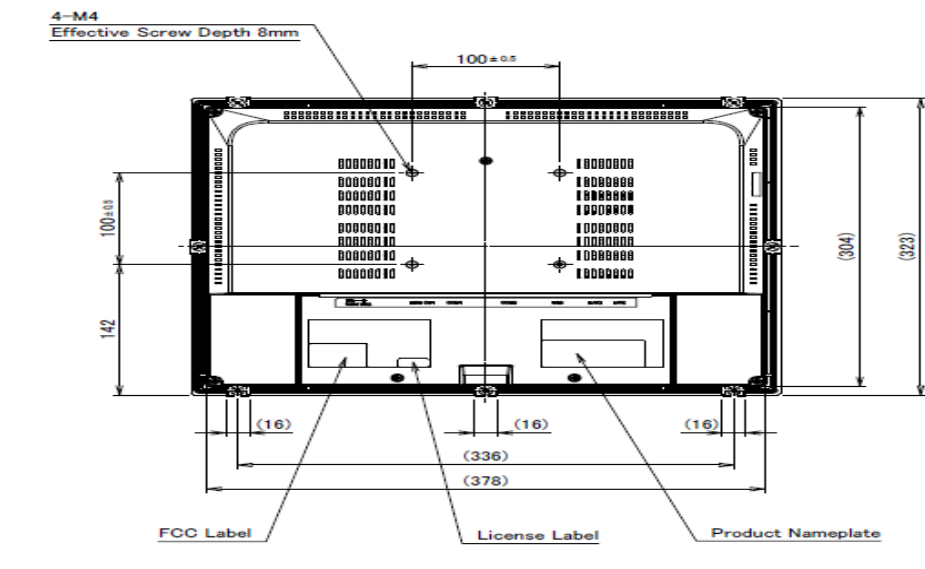
Figure 10: 4-Sided View IC755CxS15CDx

Figure 11: Rear View IC755CxS15CDx

Note: *Refer to the section* IC755CxS15CDx Specifications *for drawing dimensions.*

2.2   LED Indicators

The QuickPanel⁺ Operator Interface provides LED indications for the following:

- Operation status
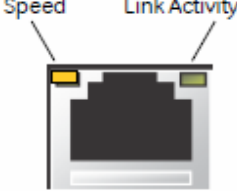- Ethernet Port operation

2.2.1   Operation Status LEDs

The QuickPanel⁺ has one tri-color LED that provides visual operation status indication for IC755CxS06RDx, IC755CxW07CDx, the and IC755CxSxxCDx units.

LED State	QuickPanel⁺ State
Amber, solid	Operating system starting
Green, solid	Normal operating state
Green, blinking	Backlight off
Red, blinking	Backlight failure
Off	Power not applied to unit

2.2.2   Ethernet Port Operation LEDs

The Ethernet port has two LED indicators: Speed and Link Activity.

LED	LED State	Operating State
Speed	Yellow, on	10/100
Link Activity	Green, on	Link status

Section 3:   Software

This Section provides QuickPanel+ software information and procedures to perform the most common tasks.

3.1   Operating System

Note: *Refer to* http://windows.microsoft.com.

The QuickPanel+ operating system (OS), Microsoft Windows Embedded Compact 7, is a full 32-bit OS with a graphical user interface (GUI). It is stored in flash memory and copied to a block of DRAM for execution. The OS automatically starts following QuickPanel+ unit powerup or reset.

3.2   Backup Utility

NOTICE

Run the Backup Utility after configuration changes to the operating system, after installing applications, and before shutdown.

The QuickPanel+ is not battery powered; therefore, a Backup Utility feature saves the changes made to the Windows Registry or Desktop to Flash Memory. The Backup Utility achieves the following:

* Stores the Windows Embedded Compact 7 registry (including any control panel settings) in Flash memory

* Stores changes (or additions) made to the \Windows sub-tree of the file system in the user block of flash memory

3.3   Storage Manager

Note: *Storage Manager is accessed from the Control Panel folder. Online help is available.*

Use Microsoft Storage Manager to repair or format lost or corrupted data volumes existing in the SD Card, battery-backed SRAM (BBSRAM), or USB Flash Keys (thumb drives).

Note: *Data volumes existing in the main flash file system of the* QuickPanel+ *may not be repaired by Storage Manager.*

3.4   Copy Project to SD Card

The custom utility Copy Project to SD Card transfers PAC Machine Edition
View and Control projects between compatible QuickPanel+ units using
SD cards.

⚠CAUTION

Before disconnecting power, verify that the copy or update operation is complete (no busy
message or wait cursor).

To copy a PAC Machine Edition project to an SD card

1. Verify that there is a blank SD card in the SD card port.

2. Double-tap the **Copy Project to SD Card** icon on the desktop.

3. If the project is secured with an enhanced security password,
   then the password authentication window will be displayed. The
   user shall be able to proceed only when the password is
   successfully authenticated.

4. From the Copy Project Query confirmation window, tap **Yes**.

⚠CAUTION

Copying a project while PAC Machine Edition runtimes are active may cause an incomplete
copy to be created if the runtimes are also writing to files in the project folders. If the utility
detects this situation, it will notify you to stop the runtimes before making the backup. You
will not be able to create a backup while the runtimes are writing files.

3.5   PAC Machine Edition Project Update

Update a PAC Machine Edition application that is currently stored on the
QuickPanel+ unit with a revision stored on a flash device, such as an SD
card.

To update a Machine Edition project

1. Insert the flash device containing an upgraded version of the PAC
   Machine Edition project into the appropriate port.

2. Restart the unit.

Note: *Depending on set options, the update may or may not be enabled, or may update automatically. If there is more than one flash device with a valid project copy present, a Select Media confirmation window displays, prompting you to choose with which flash device to update Select the device from the list and click **OK*** to continue. When a valid project is found on the flash device, you will be prompted to install the project or skip it. Tap ***OK*** to install or ***Cancel*** to skip the installation, and continue to restart. If an invalid project is found, an error message displays. This window must be closed before the unit will restart.

3. Remove the flash device from the port.

3.6   FTP Server

The File Transfer Protocol (FTP) server included with the QuickPanel⁺ unit supports standards (RFC 959). It does not support Secure File Transfer Protocol (SFTP) or implicit FTPS, which uses different ports and is based on Secure Shell (SSH) rather than Secure Sockets Layer (SSL).

The FTP server is configured with the Quick Panel⁺ Setup Tool. By default, the server is not enabled. Once enabled, a background program will run, waiting for clients to connect. Up to ten connections are supported. Sessions that are idle for five minutes are terminated by the server.

The server supports the non-secure operation. All information including username, password, and data is transmitted with no encryption and is susceptible to packet sniffing and various FTP attacks.

Note: *If the server status is changed, the* QuickPanel⁺ must be restarted before changes take effect.

3.6.1   Remote User Authentication

Note: *The FTP root directory is available from the* QuickPanel⁺ as \, and is the root of the flash device.

The server only supports anonymous login with a password requested (but not validated). This may prevent some types of attacks and is required by some clients. Once connected, the remote user is logged into the FTP root directory.

3.6.2   FTP with Removable Flash Devices

All removable flash devices remote-FTP users as directories of the FTP root directory. Computer Flash card partitions display as directories such as \SD Memory and USB Flash Keys display as directories such as \Hard Disk. Full access privileges are granted to the client in these folders/devices.

Removable flash device directories are captured when a session is opened and are not changed while the session exists. If you start without

an installed SD Card, close your session and log on again to view the SD Card directory. If the SD Card existed when you logged on and is removed and inserted, it will still work, provided the SD Card's device name did not change during reinsertion.

3.7 HTTP Server

The HyperText Transfer Protocol (HTTP) server included with the QuickPanel[+] supports standards (RFC 2616). The HTTP server is configured with the Quick Panel[+] Setup Tool. By default, the server is not enabled. Once enabled, a background program will run, waiting for clients to connect. From the QuickPanel[+] Operator Interface, the default web page is located in \Windows\www\wwwpub.

The server supports non-secure port 80 operations. QP[+] can have a maximum of 16 (unique IP addresses) web connections and "n" number of clients (web browser). If the application contains more objects then the load time for the web pages will increase, degrading performance.

Note: *If the server status is changed, the* QuickPanel[+] must be restarted before changes take effect.

3.8 SNTP Server

The SNTP server included with the QuickPanel[+] supports SNTP Version 4 for IPv4, IPv6, and OSI. The SNTP server is configured with the QuickPanel[+] Setup Tool. By default, the server is not enabled. Once enabled, the server will refresh the time specified in the setup tool configuration. Pressing the Update Now button immediately obtains the time from the configured time server.

The SNTP server supports non-secure UDP port 123 operations.

3.9 QuickPanel[+] OS Utilities Settings Tool

Note: *DIP switches are set in the OFF position (default) at the factory.*

The QuickPanel[+] Operator Interface is equipped with DIP switches to perform control functionality, as follows:

- **DIP Switch 1 (SW2 Switch)** enables firmware upgrades. The firmware upgrade is allowed only after turning this switch in the ON position. It is highly recommended to turn the switch position to OFF after the firmware upgrade is completed as a security measurement.

- **DIP Switch 2 (SW2 Switch)** controls Force Startup. Turning this switch to the ON position forces the startup applications to run when the operating system is started.

Note: *The DIP Switch feature is designed as a security measurement. However, security requirements can also be met using the gesture-based feature. Before the listed firmware builds, these operations were only supported using the DIP Switch settings.*

Some operators find it difficult to use the DIP Switch settings to perform these functions (such as removing the back plate of the device and adjusting the positions of the DIP Switch for each operation). As an alternative to using the DIP Switch settings, the QuickPanel[+] OS Utilities Settings tool contains finger gesture-based utilities to perform the same operations. This functionality is available with the firmware builds listed in the following table.

QuickPanel[+] OS Utilities Settings Tool Support

QuickPanel[+] Product	Firmware Build
IC755CxS06RDx (6" Display)	IC755CxS06RDA_Build14_14B
IC755CxW07CDx (7" Display)	IC755CxW07CDA_V1.00_Build37_37D
IC755CxS10CDx (10" Display)	
IC755CxS12CDx (12" Display)	V1.00_Build26
IC755CxS15CDx (15" Display)	

The tool operation buttons for each utility only respond to a double-tap finger gesture. It will not accept any keyboard or mouse clicks, finger simulator-based inputs, or click inputs from any remote touch-based device. The user can access the tool from the **Start** menu by selecting **Programs, System**, and **QuickPanel[+] OS Utilities Settings** on the device. The tool can be used to perform the following operations using the double-tap feature, without adjusting the DIP Switch positions:

- Firmware Upgrade

- Section 3.9.2, Bypass Startup Programs

- Section 3.9.3, Reset Enhanced Security

- Section 3.9.4, Enable or Disable SNMP Agent

NOTICE

For security, permit these operations only when the operator is physically located near the QuickPanel[+] and require that users perform a physical action on the device.

3.9.1 Firmware Upgrade

Note: *This utility operates similarly to the QuickPanel⁺ Update Tool, which comes with the OS image upgrade binaries. The operator can continue to use the QuickPanel⁺ Update Tool to use the DIP Switch feature.*

The Firmware Upgrade utility setting enables operators to upgrade the firmware. Firmware updates are not supported over Ethernet or Serial interfaces. Insert the media (SD Card) containing the required files for firmware upgrade and perform the following procedure.

Note:

- *Make sure the copy of the required binaries to the SD card is not within a folder.*

- *The firmware package contains encrypted .nbo files. Use the PreUpdate.exe tool to decrypt the .nbo files before using them to upgrade.*

After a firmware upgrade, which refreshes the device, the user must download the project again and install their tools (including third-party tools) on the device.

Note: *It is recommended that the user back up any important data before firmware upgrade so that they can replace the data after firmware upgrade if necessary.*

NOTICE

If the current firmware build version on the QuickPanel⁺ is any of the following, refer to the following sub-section, Firmware Upgrade for Specific Build Version:

- Build14_14B for IC755CxS06RDx (6" Display)

- Build37_37D for IC755CxW07CDx (7" Display)

- Build 26 for
  IC755CxS10CDx (10" Display),
  IC755CxS12CDx (12" Display), and
  IC755CxS15CDx (15" Display)

To perform a firmware upgrade

1. From the **Start menu**, select **Programs, System**, and **QuickPanel⁺ OS Utilities Settings Tool** to display the QuickPanel⁺ OS Utilities Settings window.

2. Upgrade the firmware.

Figure 12: Firmware Upgrade Sequence
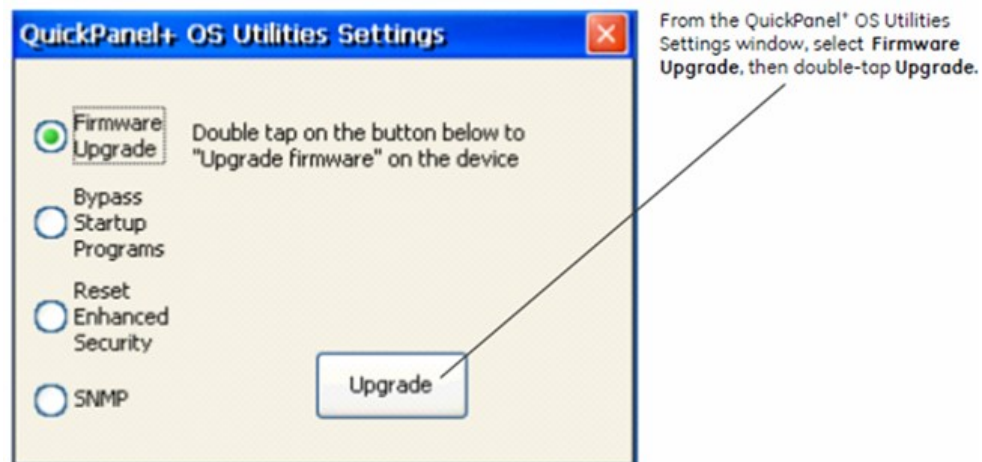
3. The operator interface guides the operator through the firmware upgrade process. After a successful upgrade, restart the device.

4. Download the project and install any site-specific tools, including third-party tools, on the device.

Firmware Upgrade for Specific Build Version

The following procedure applies to the following QuickPanel⁺ display units:

- QuickPanel⁺ IC755CxS06RDx (6" Display) with Build14_14B

- QuickPanel⁺ IC755CxW07CDx (7" Display) with Build37_37D

- QuickPanel⁺ IC755CxS10CDx (10" Display), IC755CxS12CDx (12" Display), and IC755CxS15CDx (15" Display) with build 26

To perform a firmware upgrade for a specific firmware build version

1. Put the files in the firmware package on the SD Card.

2. Double-click QPPlusUpdate.exe and run the program.

3. Perform the firmware upgrade.

Figure 13: Firmware Upgrade Sequence for Specific Firmware Builds

NOTICE

For a QuickPanel+ 7" inch Display unit, the following message displays during the process of firmware upgrade. You must re-run the QPPlusUpdate.exe program after reboot, which means you will run the QPPlusUpdate.exe program twice to complete the upgrade process.

Figure 14: QuickPanel+ 7" Display Reboot and Run Program Message
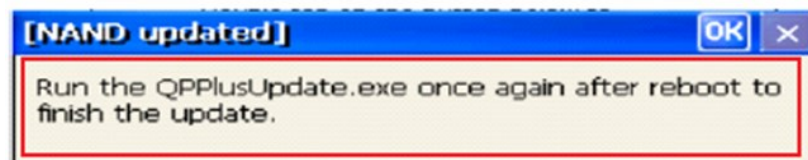
3.9.2   Bypass Startup Programs

Note: *This utility functions the same as disabling or enabling the **Don't startup Program** functionality using DIP Switch Position 2.*

The Bypass Startup Programs utility enables the operator to choose the gesture-based feature or DIP Switch (Use DIP Switch) feature to perform the Force Startup operation.

To bypass startup programs and force startup

1. From the **Start** menu, select **Programs, System**, and **QuickPanel+ OS Utilities Settings Tool** to display the QuickPanel+ OS Utilities Settings window.

2. Enable or disable the bypass startup programs feature.

Figure 15: Activate Checkbox for Use DIP Switch

From the QuickPanel⁺ OS Utilities Settings window, select **Bypass Startup Programs**.

To use the DIP Switch feature to perform this operation, select **Use DIP Switch**.
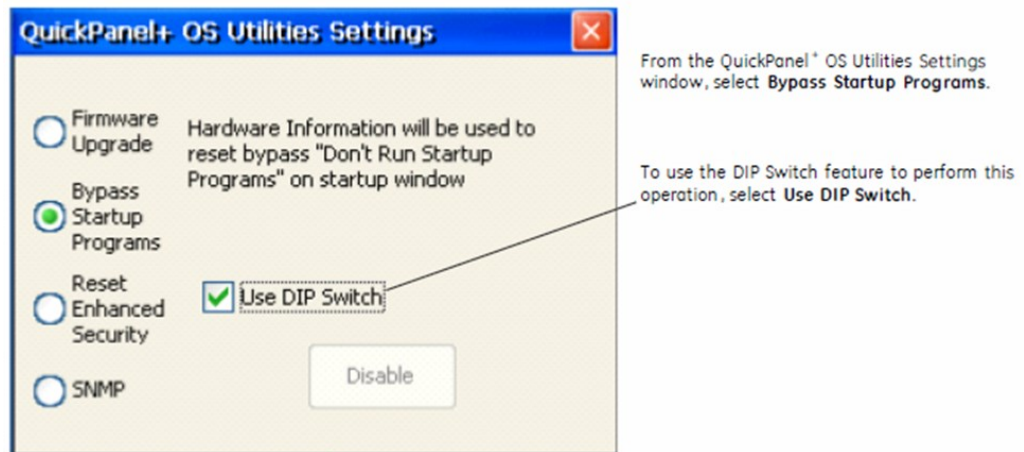
Figure 16: Enable Bypass Sequence

To use the double-tap feature to perform this operation, double-tap **Enable**.
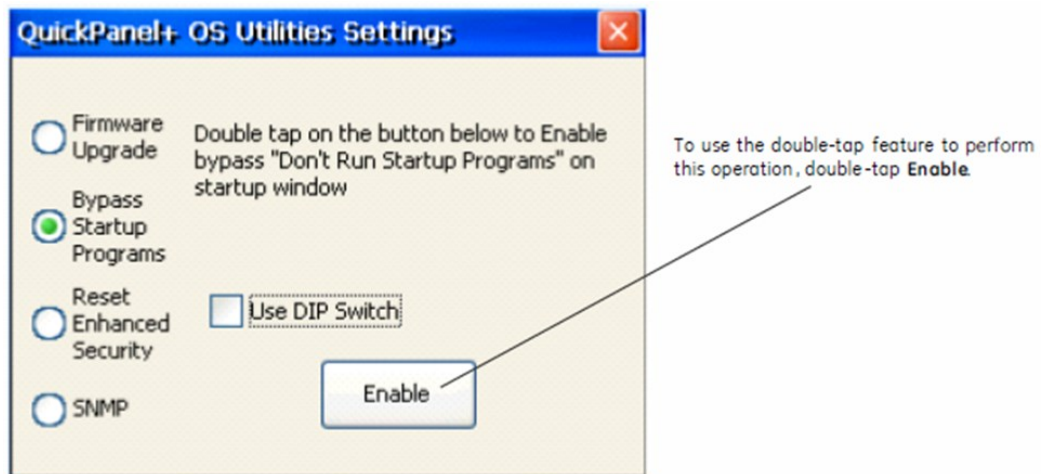
Figure 17: Start-Up Window following Enable

If **Enable** is double-tapped, the startup window displays and all startup programs are enabled to run.
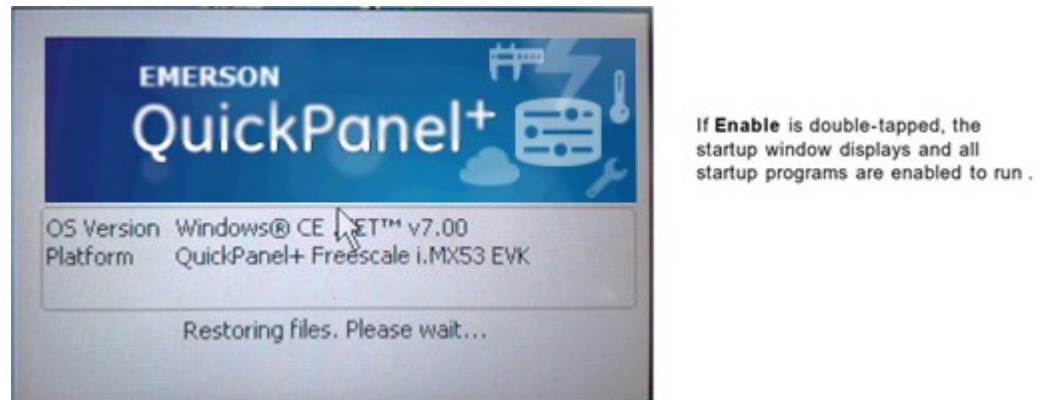
Figure 18: Start-Up Window following Disable
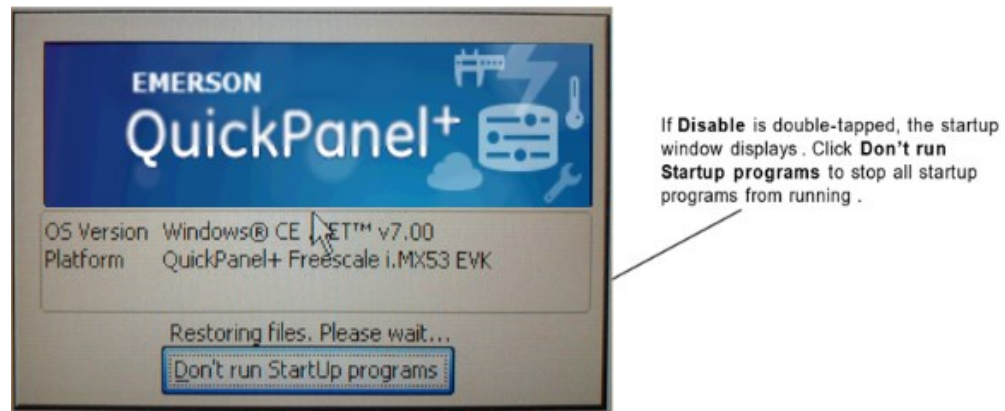
If the **Use DIP Switch** checkbox has been selected, **don't run Startup Programs** displays on the startup window based on the position of DIP Switch 2.

3.9.3   Reset Enhanced Security

The QuickPanel+ Operator Interface is configured using the PAC Machine Edition application. Using the PAC Machine Edition Enhanced Security feature, users can specify password protection for any network-connected QuickPanel+ device to perform certain operations, such as the download operation. Every operation to connect to the device requires a password.

If you forget or do not know your password, the Reset Enhanced Security feature enables a QuickPanel+ configuration download on the device by permitting the user to disable the Enhanced Security feature using the double-tap feature.

Note: *Before support of the* QuickPanel+ OS Utilities Settings Tool, if the user forgot, or did not know, his/her password, the only resolution was to contact Technical Support to reset the password or upgrade the firmware on the device.

To disable Enhanced Security

1. From the **Start** menu, select **Programs, System**, and **QuickPanel+ OS Utilities Settings Tool** to display the QuickPanel+ OS Utilities Settings window.

2. Disable the Enhanced Security setting.

Figure 19: Sequence to Disable Reset Enhanced Security
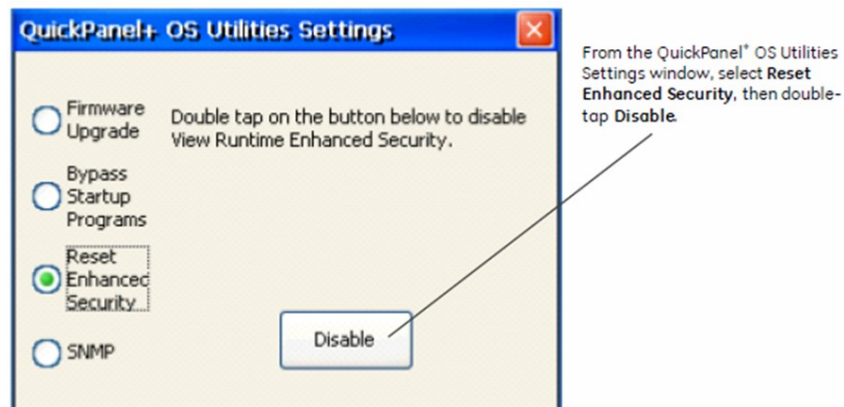
3.9.4   Enable or Disable SNMP Agent

The QuickPanel⁺ Operator Interface can be enabled as a Simple Network Management Protocol (SNMP) Agent with the capability to communicate with SNMP Managers for notification of Traps and responding to Query HMI Tag values.

Since it is designed to run over a public network, SNMP communication is disabled by default on the QuickPanel⁺ device for security reasons. As a security measure, the SNMP feature requires a tactile input gesture to enable and disable SNMP communication.

Note:

- *Refer to the section Simple Network Management Protocol (SNMP) for further details.*

- *Enabling or disabling SNMP communication is a one-time user configuration.*

  To enable the SNMP Agent

  1. From the **Start** menu, select **Programs, System**, and **QuickPanel⁺ OS Utilities Settings Tool** to display the QuickPanel⁺ OS Utilities Settings window.

  2. Enable SNMP communication.

Figure 20: Sequence to Enable SNMP
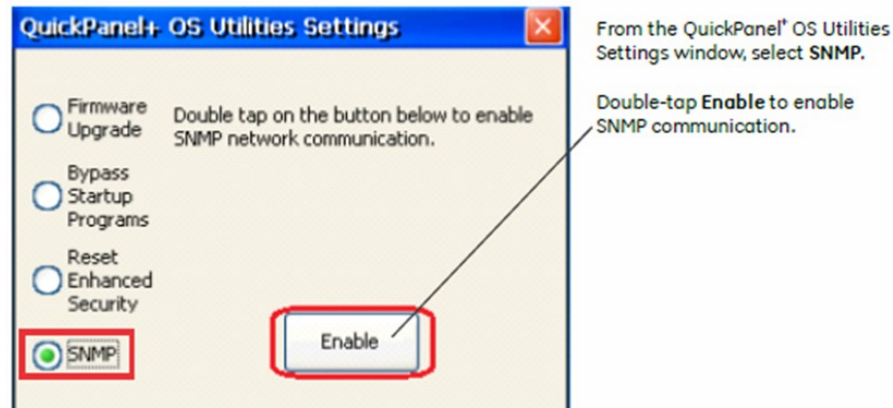
Figure 21: Acknowledge SNMP Security Risk Notice
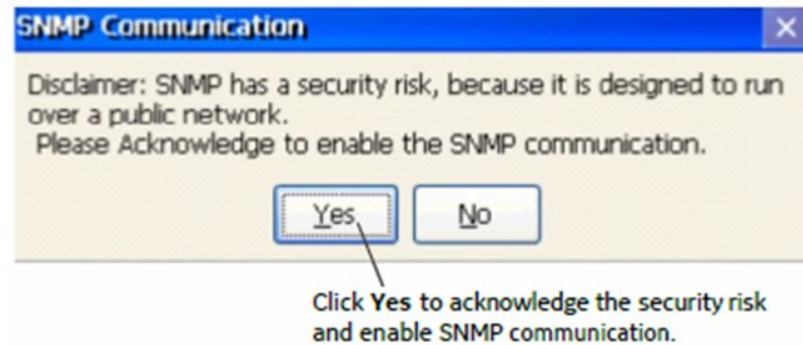
NOTICE

SNMP Communication is enabled on the device only after the user acknowledges this security dialog box (Figure 21) and clicks Yes.

Note: *Any failure or errors while enabling or disabling the SNMP service would be communicated to the user through a dialog box.*

To disable the SNMP Agent

1.   From the Start menu, select Programs, System, and QuickPanel⁺ OS Utilities Settings Tool to display the QuickPanel⁺ OS Utilities Settings window.

2.   Disable SNMP communication.

Figure 22: Sequence to Disable SNMP
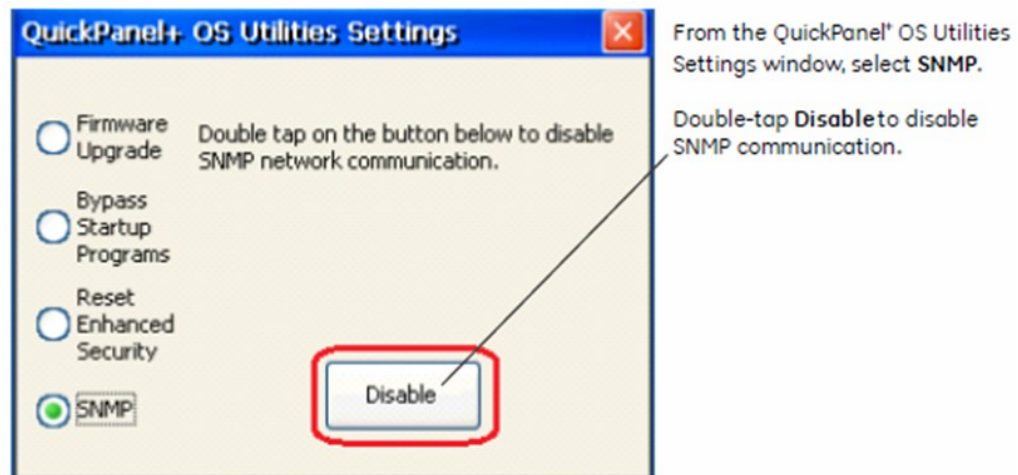
3.10   Display Screen Sensitivity Tool

The QuickPanel$^+$ 7", 10", 12", and 15" display units use capacitive screen technology that is far more responsive than the previously used resistive touchscreen technology. Resistive screens required the operator to firmly press down on the resistive overlay for a response. Capacitive screens rely on the capacitive properties of the operator's finger pressing lightly on the screen.

If the operator is wearing gloves, this can affect the operation of the capacitive screens. The thickness of the glove keeps the operator's finger slightly further from the screen. To accommodate gloved operation, the Sensitivity Tool allows the screen sensitivity to be set to a higher level. Setting the screen sensitivity to **High** enables the QuickPanel$^+$ display screen to operate with the user wearing most types of work gloves. For thicker gloves, the user may need to press down more firmly to place the finger closer to the screen, which causes the finger pad to spread out slightly to make a larger capacitive area.

Note: *Gloved operation works best when the operator is wearing gloves that fit. If the fingers do not extend to the end of the glove, the empty space at the fingertip may make it difficult to operate the display screen while wearing gloves.*

Setting the screen sensitivity to **Low** enables the QuickPanel$^+$ operator actions to be slow and deliberate as they were using resistive screens. With low sensitivity, the operator must press firmly down on the display screen for a response.

To modify the Sensitivity Tool

1. From the **Start** menu, select **Programs, System**, and **Sensitivity Tool** to display the Sensitivity Setting window.

2. Set the sensitivity level.

Figure 23: Select Screen Sensitivity Level
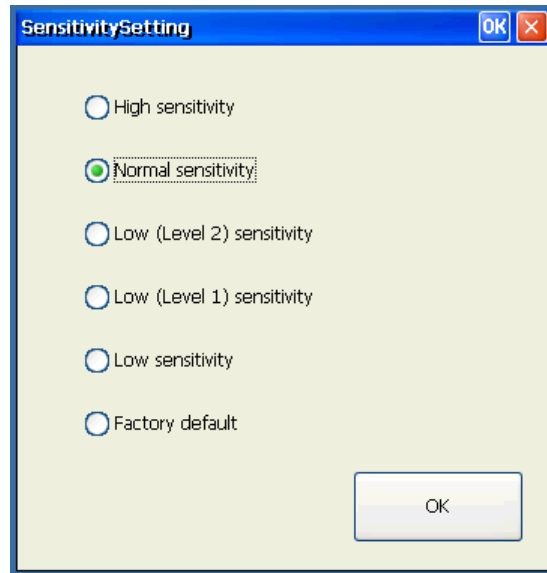
3.11   Launch Application

The Launch application window contains the shortcuts to launch some of the major QuickPanel⁺ Operator Interface applications.

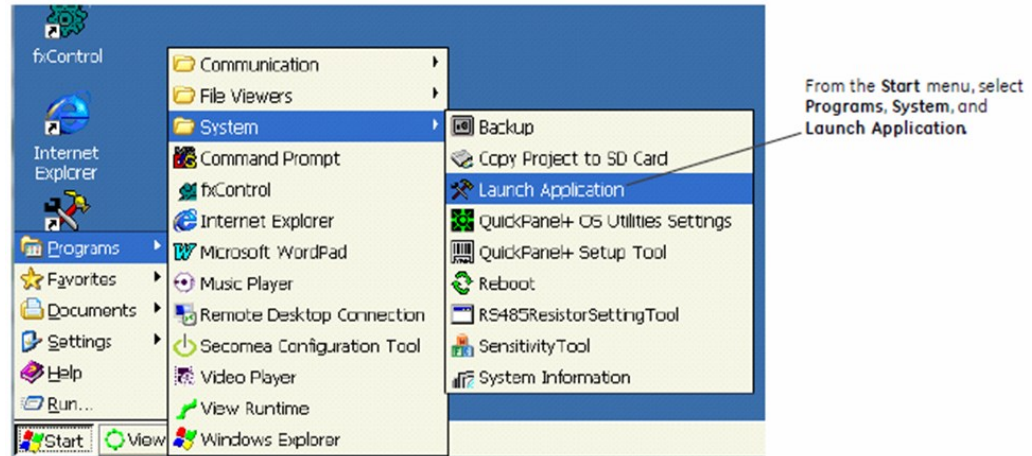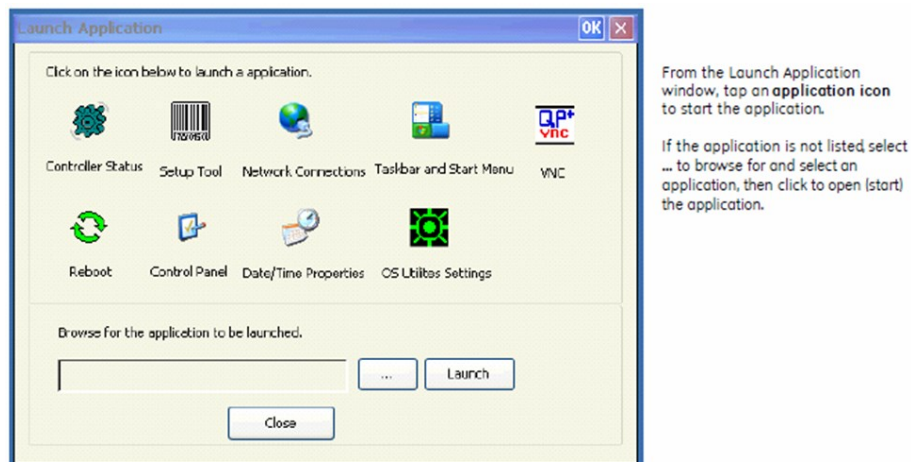**To launch an application**

Figure 24: Launch Application from Start Menu

Figure 25: Select or Browse to Specific Application

3.12   VNC Server

The VNC Server enables remote, visual connectivity to the QuickPanel⁺ Operator Interface from a laptop computer or a mobile device through the remote VNC Viewers. User authentication of the VNC Server in the QuickPanel⁺ is determined by the configuration of the Enhanced Security feature on the device. If the Enhanced Security feature is enabled for the device, a VNC Viewer can connect to the QuickPanel⁺ on the VNC Server. Connection is dependent upon user authentication with the correct password. User password entry is validated with the Enhanced Security password. If the Enhanced Security feature is disabled for the device, the VNC Server does not enforce authentication of VNC Viewers.

The VNC Server is automatically launched during QuickPanel⁺ startup. It can also be launched manually from the Launch Application.

Note: *Only One VNC client can connect to VNC Server on QP⁺. 5900 is the TCP/IP port on which the VNC server will accept connections.*

To manually launch the VNC Server: from the Start menu, select Programs, System, Launch Application and start the VNC Server application.

Figure 26: Select QP⁺ VNC Server Application
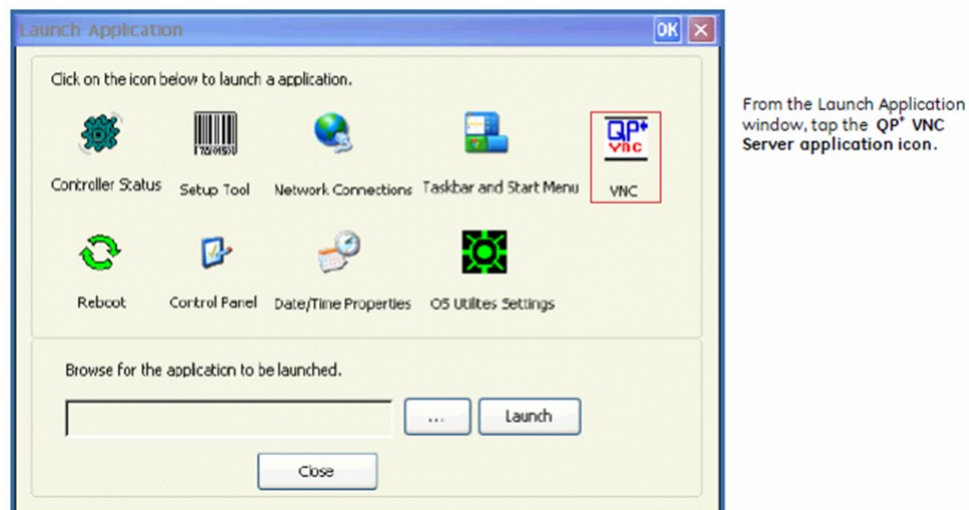
Note: *The VNC server starts approximately 40 seconds after the QuickPanel⁺ start-up process has been completed.*

3.13   Battery Life Prediction

The QuickPanel⁺ Operator Interface provides an estimated lifespan of the battery in the device. To display the battery life prediction, the current time on the QuickPanel⁺ device must be set. If a battery is not present, the QuickPanel⁺ BatteryStatus tab cannot provide battery life prediction.

To display the battery life prediction: from the Start menu, select System, open the QuickPanel⁺ Setup tool and select the BatteryStatus tab.

Figure 27: Battery Life Prediction Example
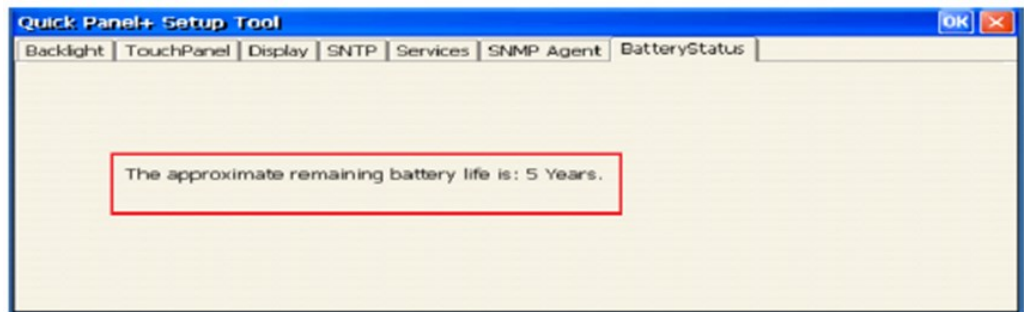
Note: *If the current time is not set on the device, the* QuickPanel⁺ Setup Tool dialog box will not be capable of providing an accurate battery life prediction.

To set the current time to display battery life prediction

1. If the current time is not set on the device, the QuickPanel⁺ Setup Tool displays the following message stating that the current date and time must be set on the device to display the correct battery life prediction.

Figure 28: Current Time Not Set Message

2. After setting the current time, open the QuickPanel⁺ Setup Tool, and select the **BatteryStatus** tab to display the correct battery life prediction information.

**Figure 29: Example of Battery Life Prediction Displayed After Current Time Set**
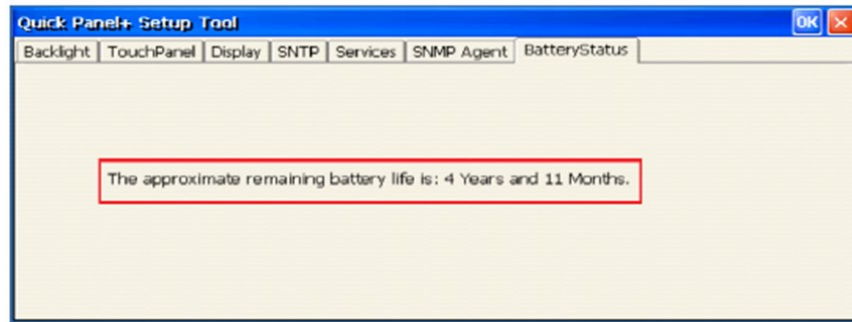
3. If the battery was replaced or removed on the QuickPanel⁺, QuickPanel⁺ Setup Tool **BatteryStatus** displays two possible scenarios related to the battery.
    (The battery life prediction is estimated based on this selection.)

Figure 30: Battery Status Options
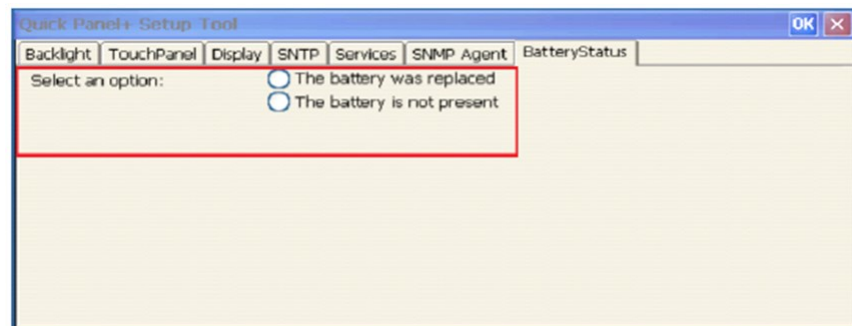
4. If the option **the battery is not present** is selected, a message displays stating that battery life cannot be predicted without a battery installed on the device.

Figure 31: Battery is Not Present Message
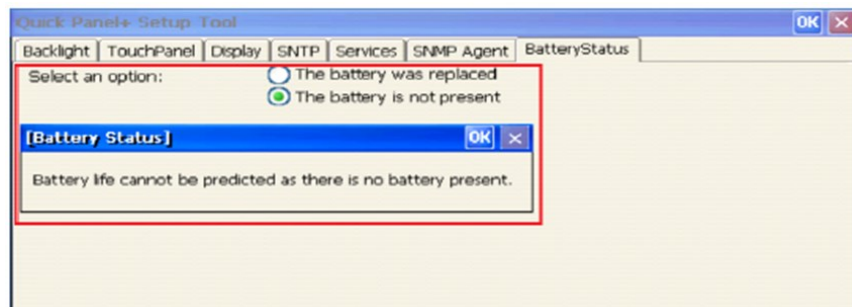
5.   If the option **the battery was replaced** is selected, enter the date
     of when the battery was first used in a QuickPanel+ device. (This
     date should reflect the date of first use in any QuickPanel+ device,
     not just the current device.)

Figure 32: Calendar Entry of Date for Battery was Replaced Option
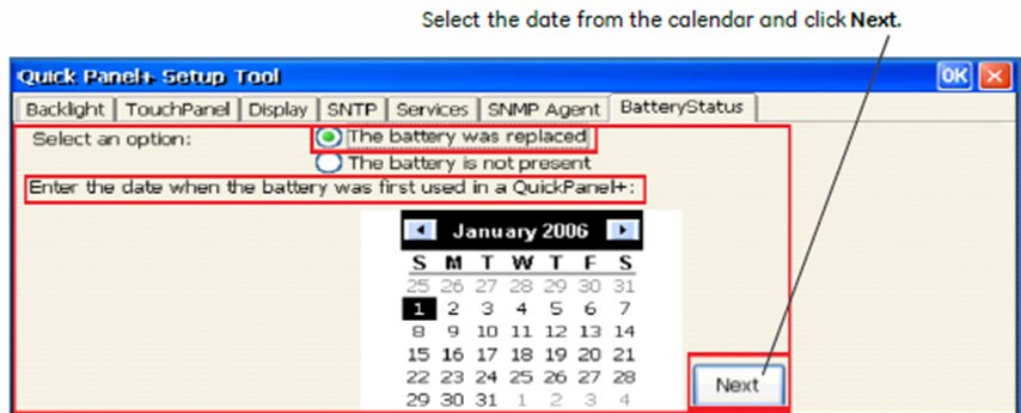
6.   Enter the current date.

Figure 33: Enter Current Date Option

7. Close and re-open the QuickPanel⁺ Setup Tool dialog box to
    display the battery life prediction information.

Figure 34: Close and Reopen Message
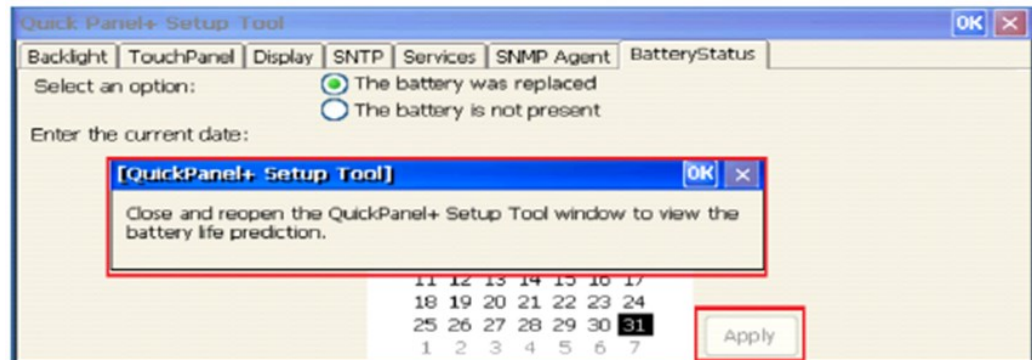
Figure 35: Battery Life Prediction Example after Battery Replacement
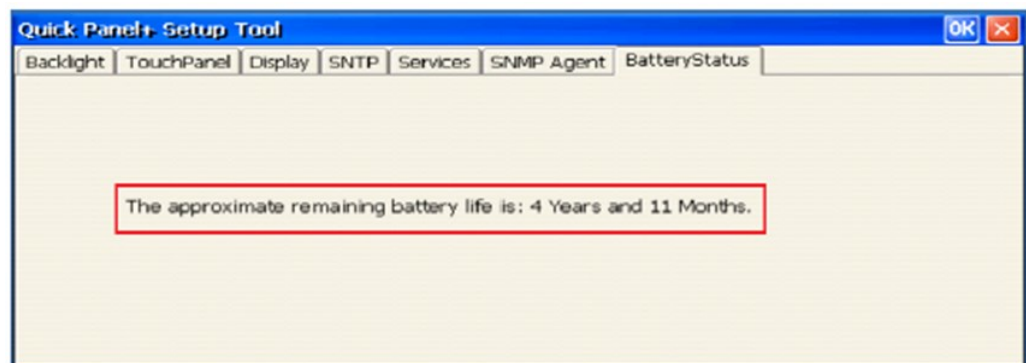
# 3.14 Simple Network Management Protocol (SNMP)

The SNMP is an application–layer protocol defined by the Internet Architecture Board (IAB) in RFC1157 that is used for exchanging management information between network devices. It is a part of the Transmission Control Protocol/Internet Protocol (TCP/IP) suite.

The QuickPanel+ Operator Interface is enabled as an SNMP agent with the capability to communicate with SNMP Managers (software tools run independently and are not part of QuickPanel+ Operator Interface) for the following purposes:

- Send notification of HMI Alarms as Traps

- Provide live values for SNMP Manager's GET/GETNEXT Query calls for HMI Tags

Figure 36 illustrates the QuickPanel+ operating as the SNMP Agent to communicate with an SNMP Manager for Traps notification and responding to Query HMI Tag values.

Figure 36: QuickPanel+ Operating as SNMP Agent
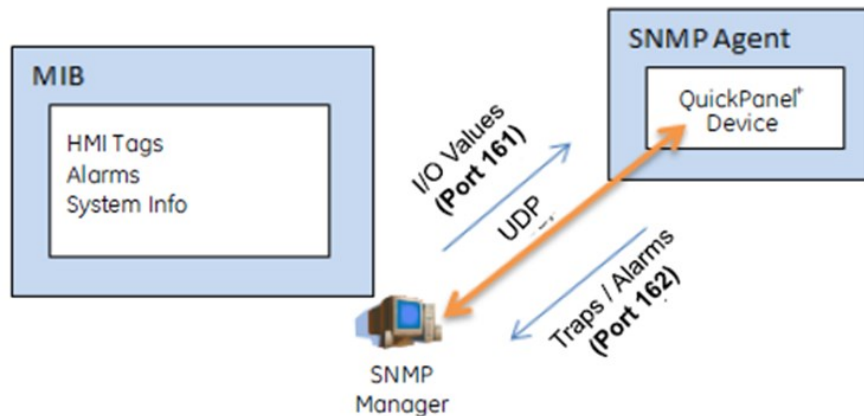
QuickPanel+ Management Information Base (MIB) Overview

The QuickPanel+ SNMP Agent maintains a MIB that describes the managed device parameters like HMI Tags, alarms, and such. The SNMP Manager uses the MIB to request specific information for the SNMP Agent and translates the information as needed for the SNMP Managers or Network Management System (NMS).

The MIB is a collection of information for managing network elements. It is a plain text file, self-explanatory, and prepared based on the Structure of Management Information (SMI), an adapted subset of Abstract Syntax Notation One (ASN.1) standard and notation.

NOTICE

The QuickPanel+ MIB follows the SNMP V2c and is also compatible with SNMP V1 based on the strictness of MIB compilers supported by SNMP Managers.

The MIB is comprised of managed objects identified as Object Identifier (Object ID or OID). Each Identifier is unique and denotes specific characteristics of a managed device. When queried, the return value of each identifier may be different. Figure 37 displays the MIB tree structure and the private enterprise number allocated by the Internet Assigned Numbers Authority (IANA) for the EMERSON SNMP products and OID for the QuickPanel+ MIB:

- OID for GEIP node: .1.3.6.1.4.1.24893

- OID for qppMIB node: .1.3.6.1.4.1.24893.1.5.2.1.1
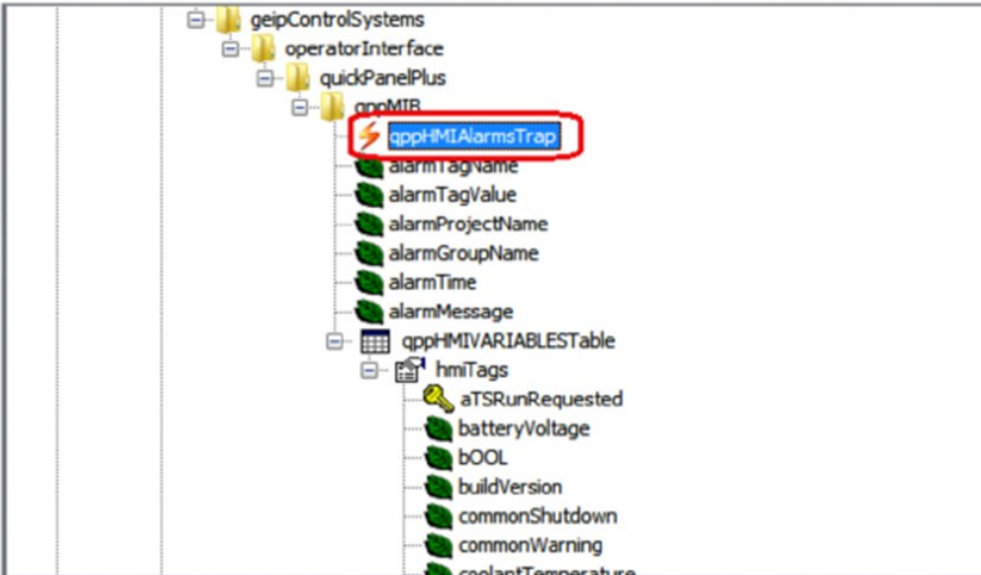
Figure 37: MIB Tree Structure
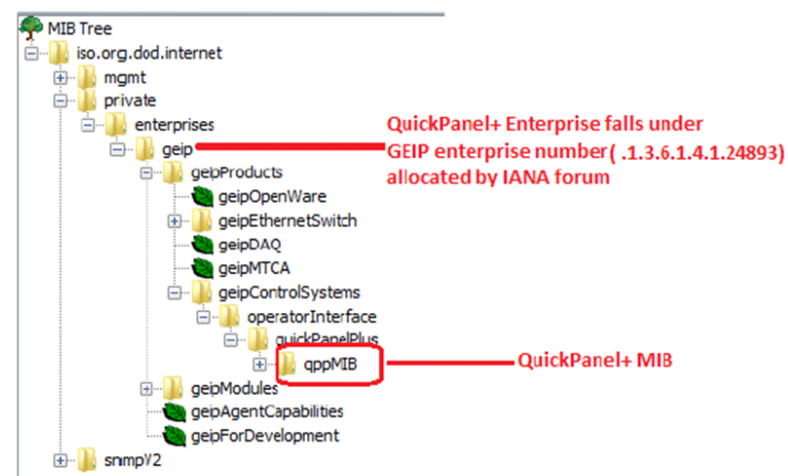
NOTICE

It is highly recommended that you pre-load MIBs (GEIP-SMI.txt and GEIP-PRODUCTS-MIB.txt in sequence) before loading the QuickPanelMIB.mib file into SNMP Managers to avoid any MIB compiler errors.

Download the MIBs GEIP-SMI.txt and GEIP-PRODUCTS-MIB.txt from the Support Site. QuickPanelMIB.mib may be copied from the QuickPanel⁺ device by performing the procedure Export MIB to SD Card.

Figure 38 displays the HMI Alarms notification (TRAP information) with alarm objects as part of the Alarm Record. The SNMP Manager is notified with the TRAP information when alarms are generated on the HMI running on a QuickPanel⁺ device.

- OID for Alarm Trap: .1.3.6.1.4.1.24893.1.5.2.1.1.10

Figure 38: Alarm Trap Notification Display

Figure 39 displays the list of HMI Tags that the SNMP Manager can query to retrieve live values from the HMI running on a QuickPanel⁺ device.

Note: *The list of all HMI tags is populated within the hmiTags node of MIB tree and the HMI Tag access level is currently restricted to Read-only for the SNMP Manager.*
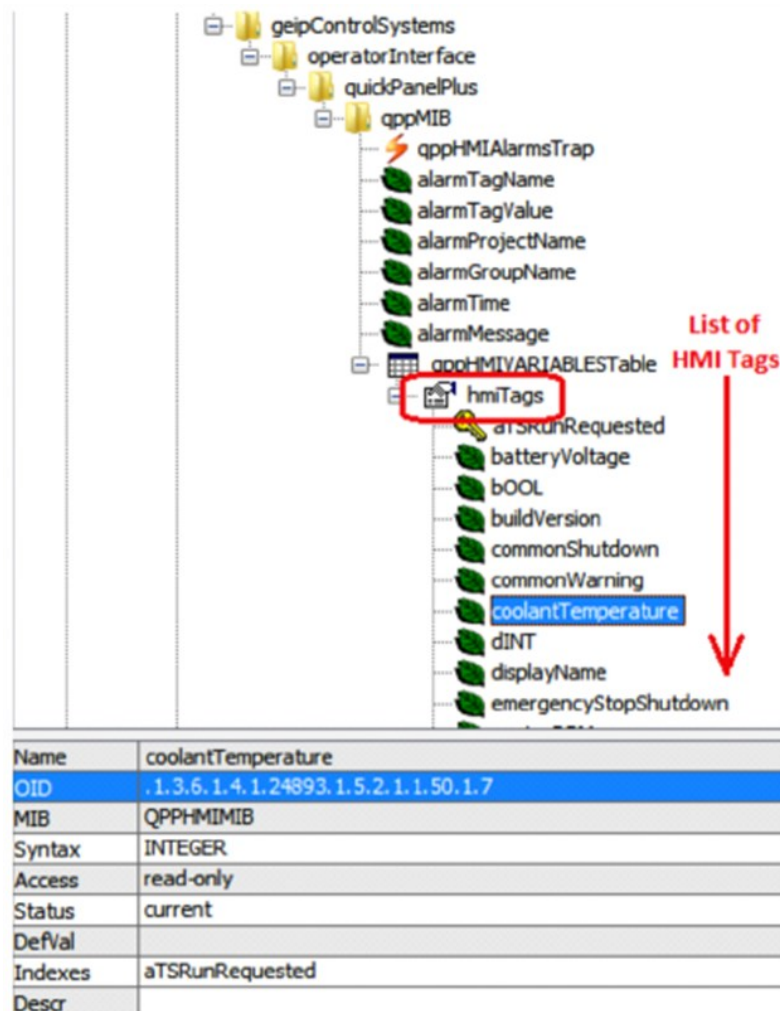
OID for starting HMI Tag element (also called Index element):

.1.3.6.1.4.1.24893.1.5.2.1.1.50.1.1.

If there were 40 HMI tags in total, the last OID would be

.1.3.6.1.4.1.24893.1.5.2.1.1.50.1.40.

Figure 39: List of HMI Tags Available to Query

The following sections provide the procedures to enable and configure the QuickPanel+ device to operate as an SNMP Agent and establish communication with an SNMP Manager.

- Section 3.14.1, Configure Trap Destinations
- Section 3.14.2, Enable or Disable SNMP Agent
- Section 3.14.3, Export MIB to SD Card
- Section 3.14.4, Load MIB into SNMP Manager
- Section 3.14.5, Data Types Mapping between PAC Machine Edition Project and SNMP
- Section 3.14.6, Establish SNMP Communication

3.14.1   Configure Trap Destinations

TRAP Destinations are configured through the QuickPanel⁺ Setup Tool by providing the IP Address of the SNMP Manager to which Traps should be sent. The user can configure two different Trap Destinations (IP Addresses).

*Note:*   *If you do not want to be notified of Traps, you do not need to configure Trap Destinations.*

To configure Trap Destinations

NOTICE

If Trap Destination(s) is/are configured after enabling the SNMP Agent on the device, it is highly recommended that you subsequently disable and then re-enable the SNMP Agent service on the device.

1. From the **Start** menu, select **System**, open the **QuickPanel⁺ Setup Tool**, and select the **SNMP Agent** tab.

2. Configure the Trap destination(s) of the SNMP Manager.

Figure 40: Specify IP Address(es) as Trap Destination(s)
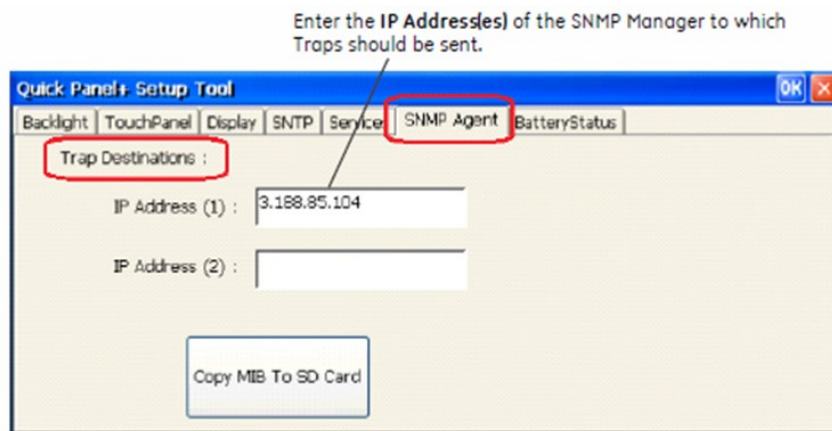
3. Click **OK** to save the changes.

Close the QuickPanel⁺ Setup Tool, then re-open the tool to view the configured Trap Destination details from the SNMP Agent tab.

3.14.2   Enable or Disable SNMP Agent

SNMP communication is disabled by default on the QuickPanel+ device for security purposes. To enable or disable SNMP communication using the QuickPanel+ OS Utilities Settings tool refer to the procedure in Section 3.9.4, Enable or Disable SNMP Agent.

Note: *Enabling or disabling SNMP communication is a one-time user configuration.*

3.14.3   Export MIB to SD Card

With the SNMP Agent enabled on the QuickPanel+ device, export the QuickPanel+ Management Information Base (MIB) QuickPanelMIB.mib file to an SD Card.

NOTICE

It is highly recommended that you pre-load Emerson MIBs (GEIP-SMI.txt and GEIP-PRODUCTS-MIB.txt in sequence) before loading the QuickPanelMIB.mib file into SNMP Managers to avoid any MIB compiler errors.

Download the MIBs GEIP-SMI.txt and GEIP-PRODUCTS-MIB.txt from the Support Site. QuickPanelMIB.mib may be copied from the QuickPanel+ device by performing the following procedure.
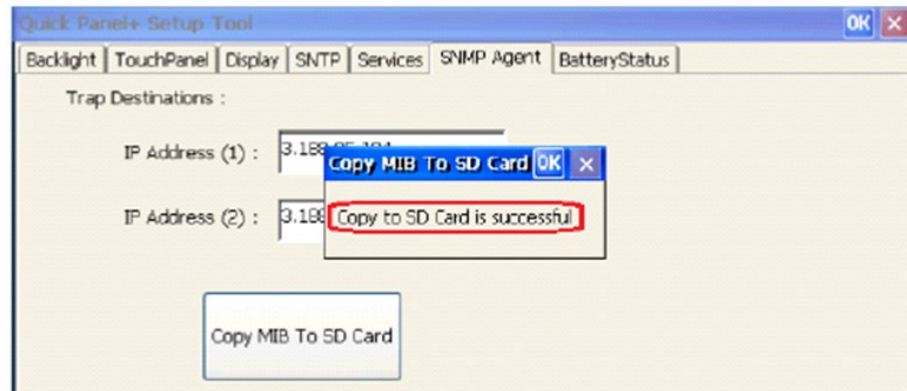
To export the MIB to an SD Card

1. Insert a working SD Card into the external card slot on the QuickPanel+ device.

2. From the **Start** menu, select **System**, open the **QuickPanel+ Setup Tool**, and select the **SNMP Agent** tab.

3. Copy the MIB file to the SD Card.

Figure 41: Copy MIB to SD Card
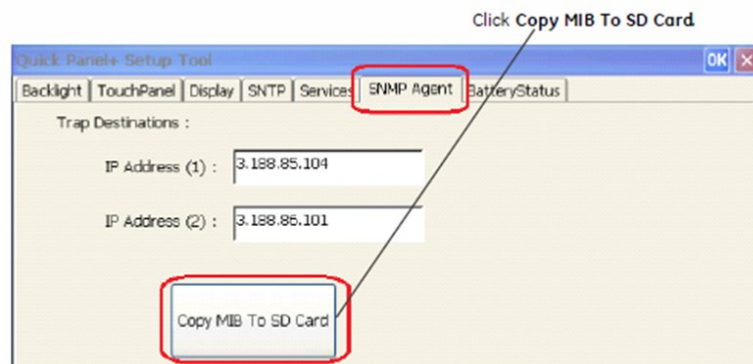
A dialog box displays when the copy is successful or if a failure occurs.

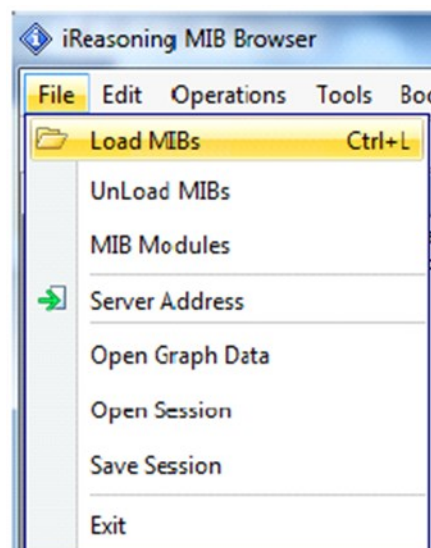**Figure 42: Success/Failure Annunciation**

3.14.4   Load MIB into SNMP Manager

After successfully exporting the MIB to an SD Card, archive the
QuickPanel⁺ MIB file to a folder on a machine running with SNMP
Manager.

To load the MIB into the SNMP Manager:

From the SNMP Manager tool **File** menu, select **Load the MIBs**.

Figure 43: Loading MIBs in 3rd Party SNMP Manager Tool

If there are no errors, the MIB will be loaded successfully and the SNMP
Manager will be ready for communication with the QuickPanel⁺ device
operating as an SNMP Agent.

3.14.5   Data Types Mapping between PAC Machine Edition Project and SNMP

When you configure HMI tags in a PAC Machine Edition project and you would like to use them in SNMP communication, all of the HMI tags are mapped to the corresponding data type in SNMP as listed in the following table. To verify this, review the Sequence of HMI Tags object in the MIB file.

PAC Machine Edition VIEW Data Types	SNMP Data Types
BOOL	INTEGER
DINT	INTEGER
LREAL	DISPLAYSTRING
STRING	DISPLAYSTRING

Note: *The PAC Machine Edition VIEW LREAL data type is mapped to DISPLAYSTRING to retain the data intact.*

You can continue to use the data type override/suffix mechanism in PAC Machine Edition for the LREAL data type to represent an INT/DINT if you have configured the data type for driver variables. This enables you to map to the DISPLAYSTRING data type in the SNMP communication as well.

For example, for the Emerson SRTP driver, you can override the IO Address of the LREAL variable LREALVar data type as %R100 [INT]. This maps the LREALVar to DISPLAYSTRING in the MIB file.

3.14.6   Establish SNMP Communication

NOTICE

SNMP communication requires that both the QuickPanel+ device and the SNMP Manager running on a machine are connected on a valid Ethernet network.

To establish SNMP communication with the QuickPanel+ device

1. Download the Project to the network-connected QuickPanel+ device and start Runtime.

2. Configure the Trap Destinations with the IP Address of the SNMP Manager.

Note: *If you do not want to be notified of Traps, you do not need to configure Trap Destinations.*

3. Enable ab SNMP agent.

4. Export the MIB to an SD Card.

5. Auto-discover or connect the QuickPanel⁺ SNMP Agent from the SNMP Manager. Once connected, load the MIB to the SNMP Manager tool.

The SNMP Manager communicating with the QuickPanel⁺ device can query values for HMI Tags and receive Alarms/Trap notification from the QuickPanel⁺ device operating as an SNMP Agent.

Tip

If you get out of sequence in the steps for configuring Traps and starting the SNMP service to establish the SNMP communication, enable or disable the SNMP Agent again using the QuickPanel⁺ OS Utilities Setting tool.

3.15   ScreenSaver

QuickPanel⁺ can run a video as a screensaver. The configuration for this can be done at the ScreenSaver Tab in the QuickPanel⁺ Setup Tool window.

Note: ScreenSaver is not supported on QP⁺ 6" Inch and 7" Inch.

Figure 44: Screen Saver Options
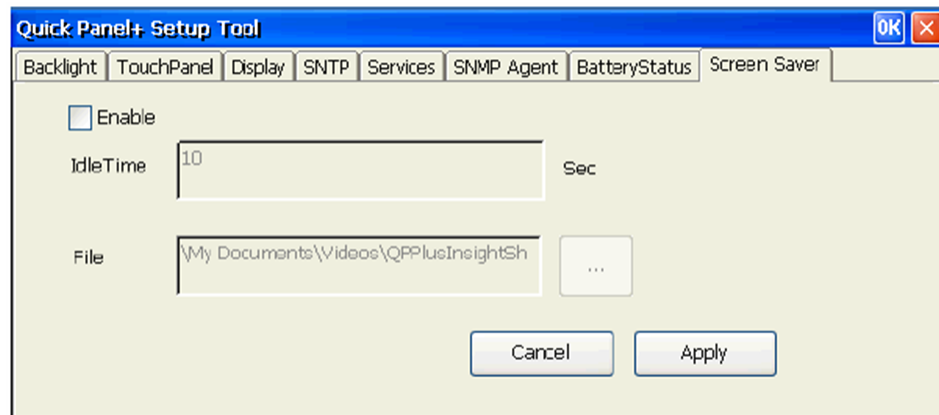
The dialog box provides the following options:

1. Enabling/Disabling the ScreenSaver.

2. Browsing the video file to be run as the Screensaver.

3. The elapse idle time setting triggers the Screensaver.

Section 4:   Pre-installation Checks

This Section provides information and procedures to perform pre-installation checks of the QuickPanel+ Operator Interface. Before installing and using the QuickPanel+, complete the following procedures:

- Section 4.1, Unpacking and Inspection

- Section 4.2, Basic Set-up

- Section 4.3, Initial Start-up

- Section 4.4, Runtime Set-up

- Section 4.5, Firmware Updates

4.1   Unpacking and Inspection

Upon receipt of the QuickPanel+ Operator Interface, carefully inspect all shipping containers for damage. If any part of the system is damaged, notify the carrier immediately. Save the damaged shipping container for inspection by the carrier. It is the consignee's responsibility to register a claim with the carrier for damage incurred during shipment.

Note: *For phone numbers and email addresses, refer to the section Contact Information at the start of this manual.*

After unpacking the unit, **record all serial numbers.** These are needed to contact Customer Care during the warranty period. Save all shipping containers and packing material for future transport or shipping. Verify that all system components have been received and agree with the order. If the system received does not agree with your order, contact Customer Care.

Before initial power-up, inspect the unit for loose or damaged components. If damage is found (such as bent component leads or loose components), contact Emerson Automation & Controls for additional instructions.

⚠**CAUTION**

Do not apply power to the unit if it has visible damage. Applying power to a unit with damaged components may cause additional damage.

Figure 45: IC755CxWxxCDx Example Package Contents


4.2 Basic Set-up

The QuickPanel⁺ Operator Interface is shipped ready for use after initial configuration.

To power up the unit, connect a dc power supply using the supplied quick-connect plug. Depending on the application, you may also want to connect and configure optional input devices, communications ports, and expansion adapters.

⚠ WARNING

- To avoid personal injury or damage to equipment, ensure that the dc supply is disconnected from power and the leads are not energized before attaching them to the unit's power supply input.

- If this equipment is used in a manner not specified by the manufacturer, equipment protection may be impaired.

Figure 46: Basic Setup Diagram
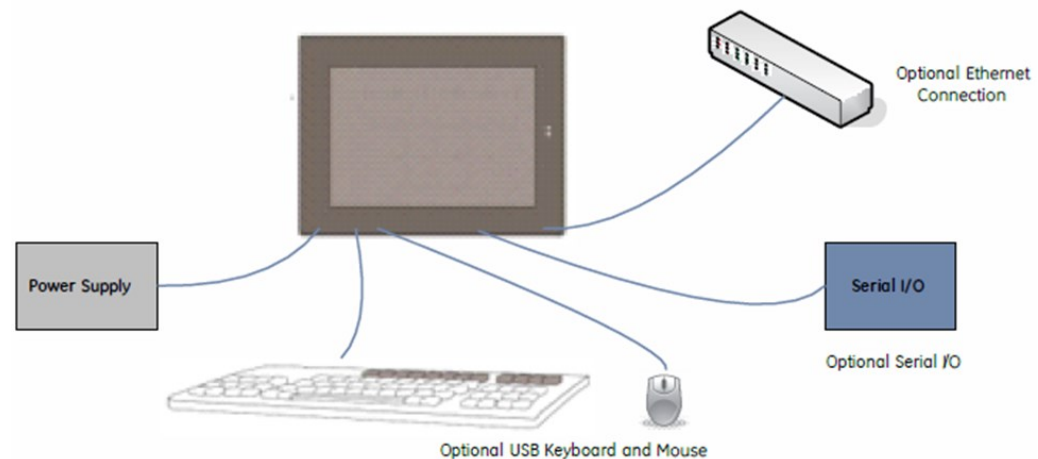
4.3   Initial Start-up

You will need the following:

- Safety Extra Low Voltage (SELV) and Limited Energy Circuit or SELV and Class 2 dc power supply.

- The power terminal block is supplied with the product. For voltage and requirements, refer to the Input Power specifications for each product in Section 1.1, Specifications.

- The mating power terminal block supports stranded 30 to 14 AWG (0.05 to 2.00 mm2) wires. The user calculates proper gauge wiring for current carrying capacity and loss according to local regulations.

- At a minimum, the cable must be rated for 75°C (167°F), or more.

- USB-compatible keyboard (optional)

- USB-compatible mouse (optional)

4.3.1   Connecting Input Power

To connect input power:

1. Verify that the power cable is not energized.

2. Loosen the screw clamps on the mating power connector.

3. Strip the insulation from the power cables.

4. Secure the power cable to the mating connector, noting polarity, and tighten the screw clamps. The torque for the attaching screws is 0.3 Nm (2.66 in-lb.).

5. Apply dc power to the unit. During normal startup and operation, the QuickPanel+ status LED indicator displays as follows:

    •   Solid amber while the QuickPanel+ is starting up

    •   Solid green during normal operation

6. Once power is applied, the QuickPanel+ begins initializing. The splash screen is the initial display.

Figure 47: Power Input Connector
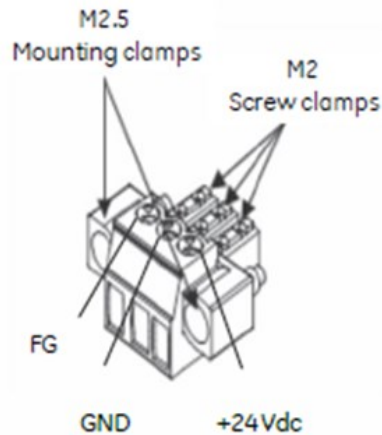
To skip running any programs included in the StartUp folder: tap Don't run Startup programs. The Microsoft Windows Embedded Compact 7 operating system starts automatically.

4.3.2   Initial Configuration

Perform the following procedure during initial startup.

To configure the QuickPanel+ display:

1. Tap **Start** , point to **Settings**, then tap **Control Panel.**

2. Configure the system clock.

Figure 48: Set System Clock
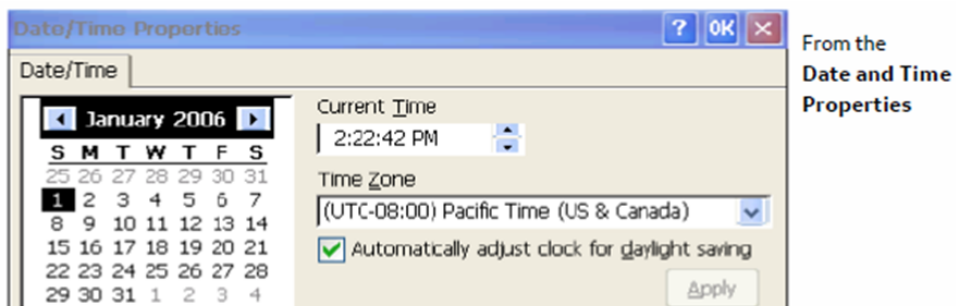
3. From the Control Panel, double-tap **System** to configure a Network Device Name. Many applications, including Proficy Historian, require a unique Device Name.

NOTICE

It is recommended to set a unique Device Name for the QuickPanel+ to avoid future conflicts.

4. From the Control Panel, double-tap **Network and Dial-up Connections** to configure network settings.

5. Run the Backup Utility to save the settings.

4.4   Runtime Set-up

To download an application to a QuickPanel⁺ Operator Interface, set up a data link between the unit and the development workstation. Refer to Section 5.7.2, Ethernet for IC755CxS06RDx, IC755CxW07CDx, and IC755CxSxxCDx, and the PAC Machine Edition online help, Downloading a Machine Edition Project.

4.5   Firmware Updates

Update the unit to the most recently released version of the firmware, with the latest feature upgrades and issues addressed. Firmware updates for the QuickPanel[+] are available on the Support website.

Default DIP Switch Settings:

DIPSW	Bit	QP+ Variants				DIPSW	BIT	QP+ Variants	
		10"/15"	12"	7" DDR2	6"/7" DDR3[1]			10"/12"/15"	6"/7"
SW2	1	ON	OFF	OFF	OFF	SW4	1	ON	N/A
	2	ON	OFF	OFF	OFF		2	ON	
	3	OFF	ON	OFF	OFF		3	ON	
	4	OFF	OFF	OFF	OFF		4	ON	
	5	ON	ON	OFF	ON		5	ON	
	6	ON	ON	ON	ON		6	ON	
	7	OFF	OFF	OFF	OFF		7	OFF	
	8	ON	ON	ON	ON		8	OFF	
SW3	1	OFF	OFF	N/A	N/A	SW5	1	OFF	
	2	ON	ON				2	OFF	
	3	OFF	OFF				3	OFF	
	4	ON	ON				4	OFF	

Note:

The firmware update will remove the application and change the IP Address of the QuickPanel+ Operator Interface.

The firmware package contains encrypted .nbo files. Use the PreUpdate.exe tool to decrypt the .nbo files before using them for an upgrade.

---

[1] QP+ 7" DDR3 models can be differentiated by their -DW or later designation

4.6   Shutdown

There are no specific dangers associated with a power failure or other unplanned shutdown of the QuickPanel⁺ unit. In general, programs are retained in flash memory and user data can be retained in BBSRAM. Some operating system settings are retained only with user intervention. Perform the following procedure to properly shut down the QuickPanel⁺ unit.

To shut down the QuickPanel⁺ unit

1. Quit any programs that are running and wait for all file operations to complete.

2. If you have not changed operating system settings (for example, brightness or touchscreen sensitivity), or do not want to save the changes, remove ac power from the dc supply.

3. Run the Backup Utility to save changes to operating system settings. When the Backup window displays Completed Successfully, remove power from the dc power supply connected to the QuickPanel⁺ unit.

Section 5:   Mounting and Installation

This Section provides the following procedures to mount and install the QuickPanel+ Operator Interface:

- Protective Sheet Installation

- Mounting Location

- Panel Mounting

- VESA Arm Mounting

- Battery Installation and Replacement

- Connectors

5.1   Protective Sheet Installation

To install the protective sheet

1. Remove the protective film from the QuickPanel+ display screen.

2. Wipe the display unit for any dust or fingerprints.

3. Peel back a corner of the clear side of the protective sheet.

4. Begin applying the corner to the display screen.

5. Slowly apply the rest of the protective sheet, smoothing it out as you go.

6. Peel the green curing film from the protective sheet.

5.2   Mounting Location

Note: *Refer to Section 1.1.2, Environmental Specifications.*

When mounting the QuickPanel⁺ Operator Interface, make sure the mounting area allows room to insert and remove the SD card, cables, and mounting brackets. Select a location that allows natural convection airflow from bottom to top of the QuickPanel⁺ enclosure. Do not mount the QuickPanel⁺ at an angle above 30° to the vertical, as illustrated in the following figure.

Figure 49: Mount within 30 Degrees to Vertical
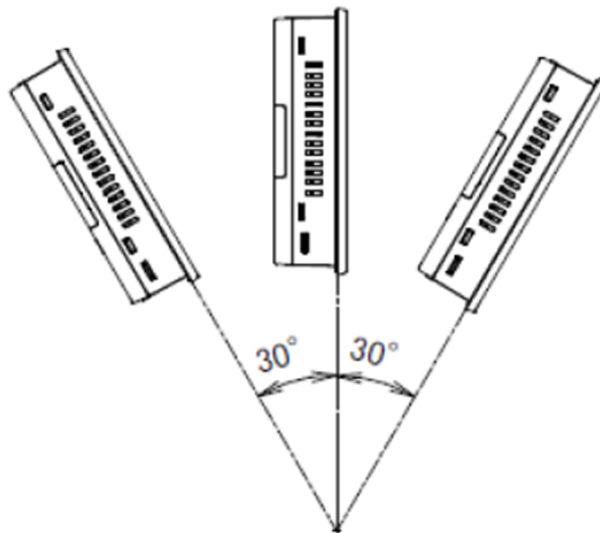
5.3 Panel Mounting

To mount the QuickPanel⁺ in an enclosure, you will need the following equipment:

- One #2 Phillips head screwdriver

- Mounting brackets (supplied)

The mounting holes for IC755CxS06RDx, IC755CxW07CDx, and IC755CxS10CDx are located on the top and bottom edges of the unit.

Figure 50: Mounting Holes (top & bottom edges) IC755CxS06RDx
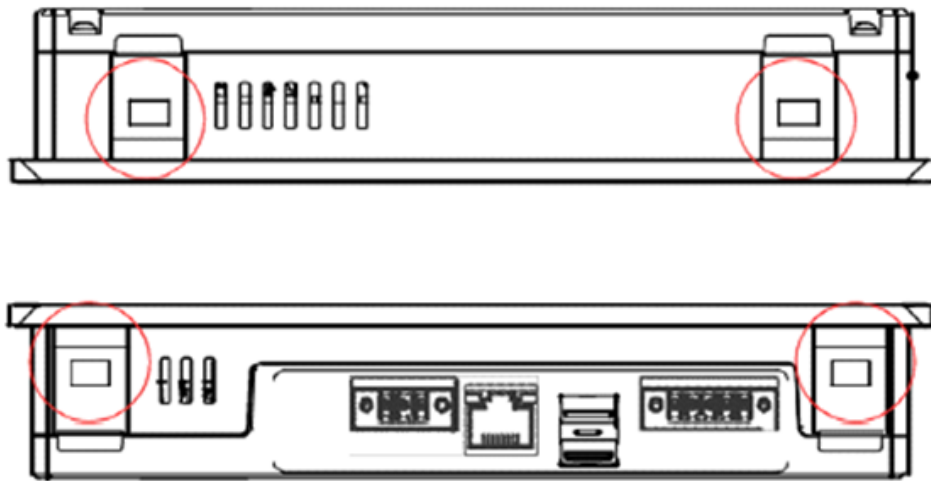
Figure 51: Mounting Holes (top & bottom edges) IC755CxW07CDx
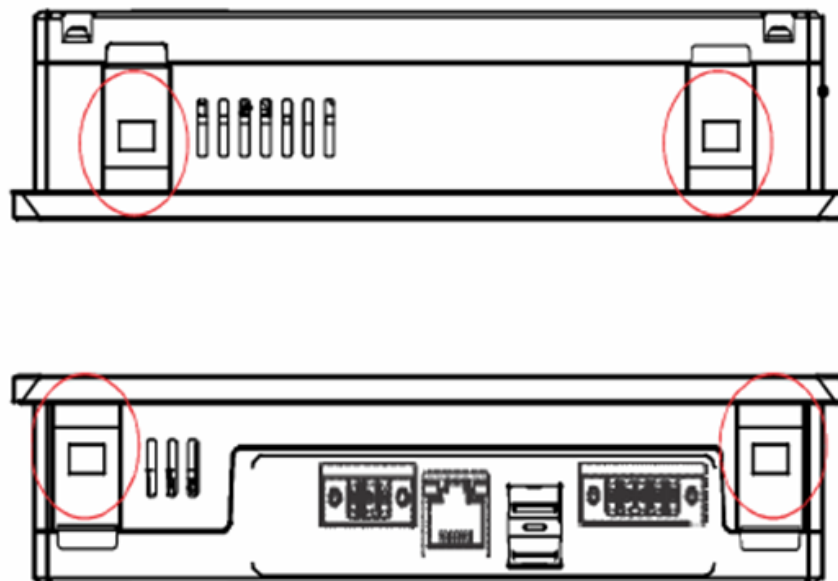
Figure 52: Mounting Holes (top & bottom edges) IC755CxS10CDx
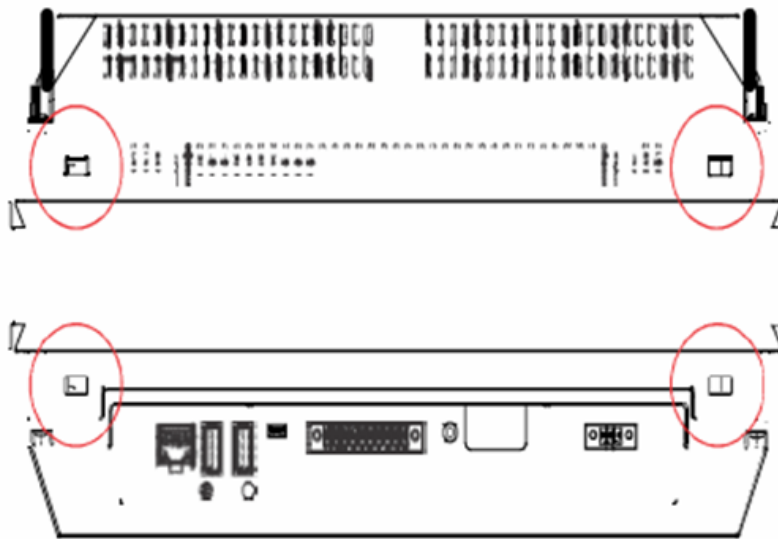
The IC755CxS12CDx and IC755CxS15CDx mounting holes are located on the top, bottom, and sides of the unit.

Figure 53: Mounting Holes (all four edges) IC755CxS12CDx
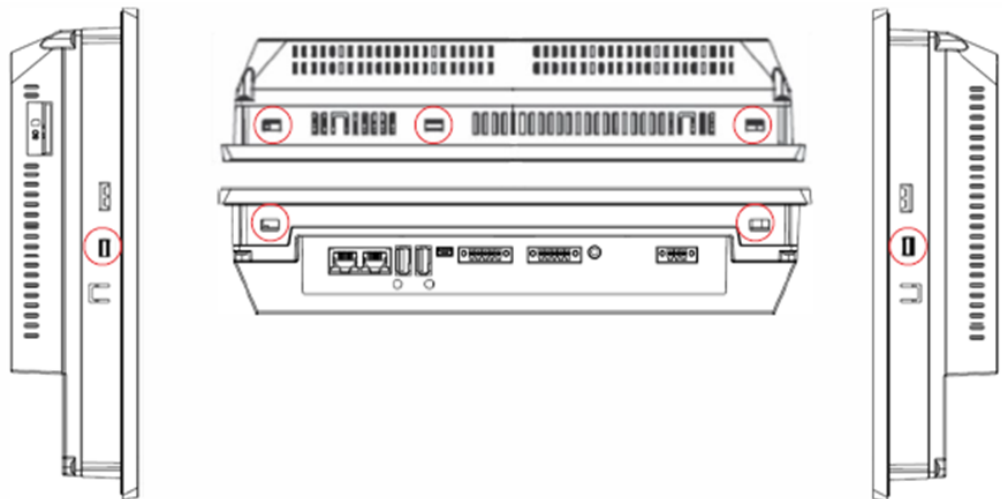
Figure 54: Mounting Holes (all four edges) IC755CxS15CDx
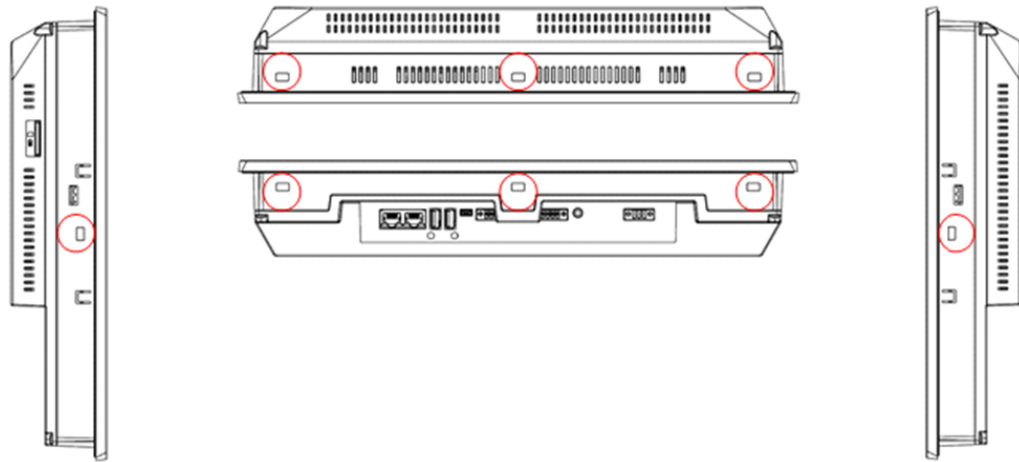
5.4   Mounting and Installation Procedure

Observe the following guidelines to properly mount and install the QuickPanel⁺ Operator Interface:

Note: *To order replacement gaskets, refer to the part number listed in Appendix B.*

- The enclosure should be of metal material.

- The metal enclosure panel should ensure proper thickness and rigidity suitable to minimize impact to the QuickPanel⁺ unit.

- The recommended torque for the plastic back cover and interior metal cover for the 10, 12, and 15" QuickPanel⁺ display units that are accessed for panel updates and serial port DIP Switches is 0.5 Nm (4.4 in-lb.).

- To avoid gasket degradation, limit repeated insertions or removals of the unit and retightening of the mounting clips. For full protection, always use a fresh gasket.

- The unit will not fit through the cutout with any cables connected, or with the power supply plug inserted in the socket.

⚠CAUTION

When installing the QuickPanel⁺ into the panel, pay careful attention while handling the unit so it does not drop and damage the unit.

To install the QuickPanel⁺

1. Cut an opening in the panel according to the specifications in the following figures.

Note: *Panel cutout tolerances are ⁺0.50, –0.00 mm (⁺0.02, –0.00 in).*

Figure 55: Panel Cutout Dimensions IC755CxS06RDx or IC755CxW07CDx
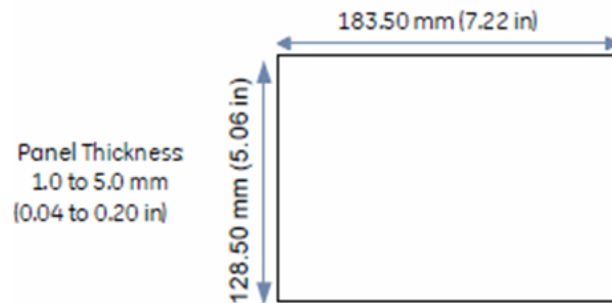

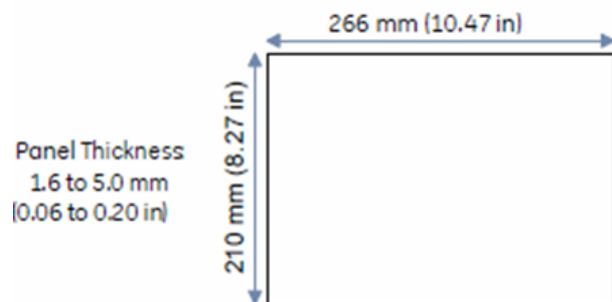### Figure 56: Panel Cutout Dimensions IC755CxS10CDx

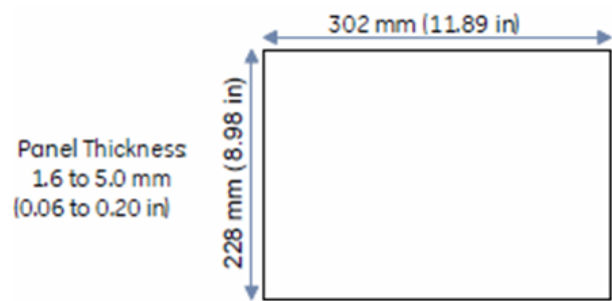

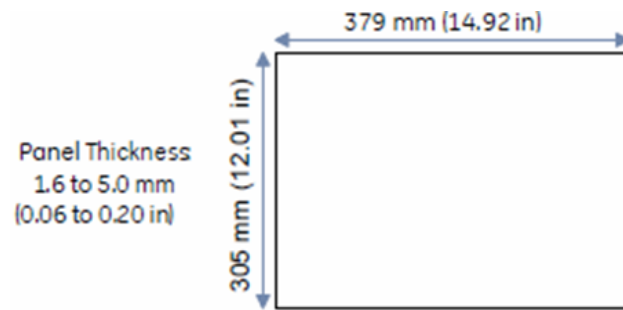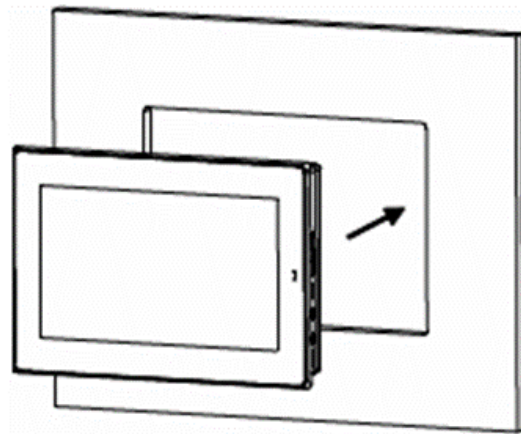### Figure 57: Panel Cutout Dimensions IC755CxS12CDx

**Figure 58: Panel Cutout Dimensions IC755CxS15CDx**

2. Verify that the gasket is present and properly seated in the bezel channel located on the sides of the unit.

3. Insert the QuickPanel[+] into the mounting panel cutout.

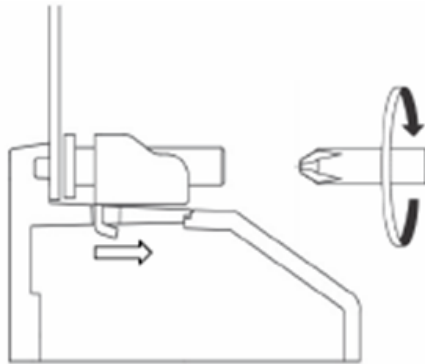**Figure 59: Insert QuickPanel[+] into Mounting Panel Cutout**

4. Insert the hook of the mounting bracket into the mounting hole as displayed in the following figure.

Figure 60: Align and Set Hook
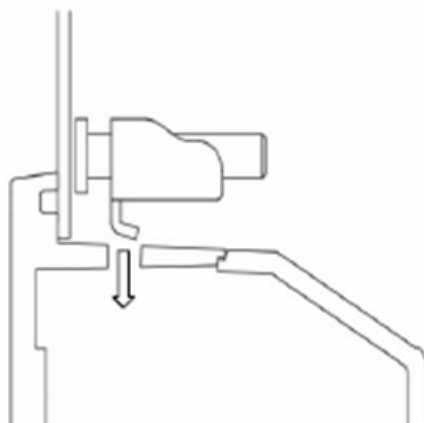
5. Tighten the screws on the mounting bracket in a clockwise direction.

Figure 61: Tighten Screws

Torque Range for Mounting Clamp Screws

Display Unit	Torque Range
IC755CxS06RDx	0.3 Nm (2.66 in-lb.)
IC755CxW07CDx	0.3 Nm (2.66 in-lb.)
IC755CxS10CDx	0.7 Nm (6 in-lb.)
IC755CxS12CDx	1.0 to 1.2 Nm (8.9 to 10.6 in-lb.)
IC755CxS15CDx	1.0 to 1.2 Nm (8.9 to 10.6 in-lb.)

5.5   VESA Arm Mounting

The QuickPanel+ unit can be installed on a commercially available Video Electronics Standards Association (VESA) MIS-D arm, stand, or apparatus that complies with the UL1678 standard.

Note: *Refer to the mounting arm manual for instructions.*

To VESA mount the QuickPanel+ unit: use the mounting holes located on the back of the unit (refer to Figure 62 and Figure 63).

- The mounting holes for IC755CxS06RDx and IC755CxW07CDx attach with M4 screws that are 6 mm (0.24 in) or less in length.
- The mounting holes for IC755CxSxxCDx attach with M4 screws that are 8 mm (0.32 in) or less in length.

Torque Range for Mounting M4 Screws

Display Unit	Torque Range
IC755CxS06RDx	0.7 to 0.8 Nm (6.2 to 7.1 in-lb.)
IC755CxW07CDx	0.7 to 0.8 Nm (6.2 to 7.1 in-lb.)
IC755CxSxxCDx	1.0 to 1.2 Nm (8.9 to 10.6 in-lb.)

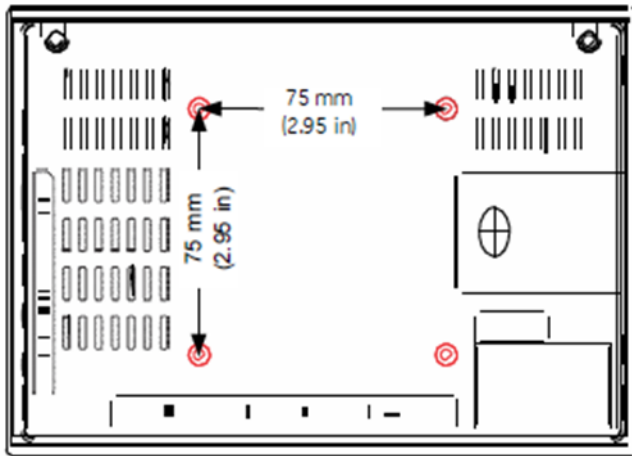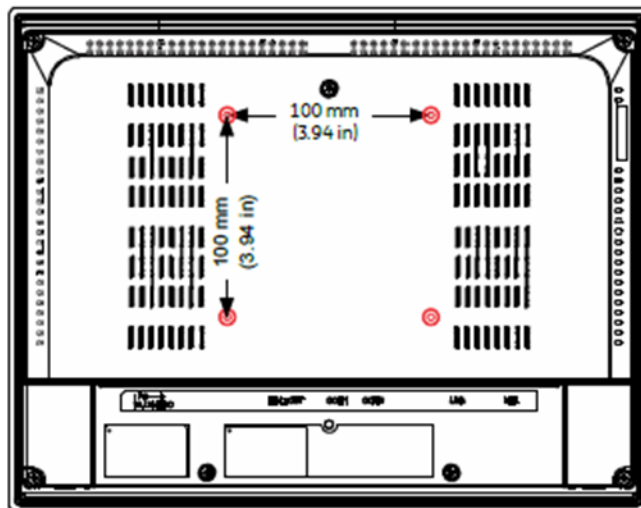**Figure 62: VESA Mounting Holes IC755CxW07CDx or IC755CxS06RDx**

Figure 63: VESA Mounting Holes IC755CxSxxCDx

5.6 Battery Installation and Replacement

⚠ WARNING

Batteries may present a risk of fire, explosion, or chemical burn if mistreated. Do not crush, disassemble, short-circuit, or dispose of in fire.

Use of batteries not specified for use with the QuickPanel⁺ product may present a risk of fire or explosion.

⚠ WARNING

Do not recharge, disassemble, heat, or incinerate lithium batteries.

Dispose of lithium batteries in accordance with federal, state, and local regulations. Be sure to consult with the appropriate regulatory agencies before disposing of batteries.

⚠CAUTION

1. Replacing the battery should only be performed by trained personnel and in a non-hazardous location.

2. If the QuickPanel⁺ Operator Interface is VESA mounted, detach from the VESA arm when replacing the battery.

3. The battery should only be replaced when the unit is powered off.

4. Care should be taken to protect and insert the battery with the correct polarity.

5. Do not use any metallic item to remove the battery (such as screwdrivers, knives, pliers, and so forth).

6. Be careful to not drop the battery or any associated screws into the unit.

7. Be careful of edges on the internal sides of the enclosure and frame.

NOTICE

The PC controller does not start automatically when the battery is replaced in QuickPanel⁺ Operator Interface. After battery replacement, start the controller using the #Command in the PAC Machine Edition runtime.
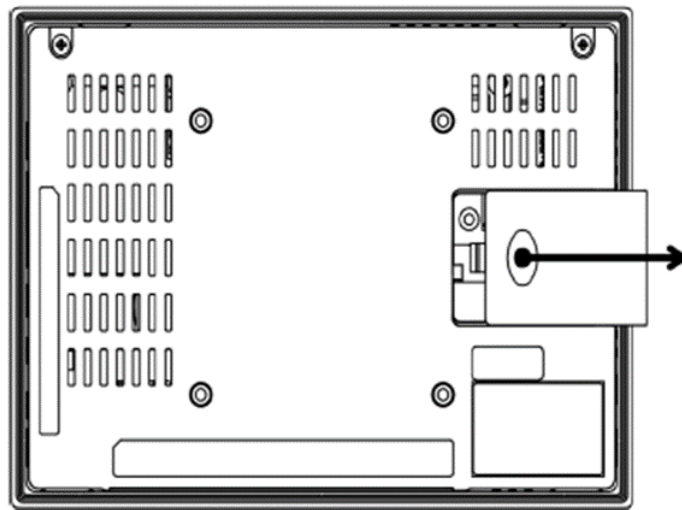
5.6.1   IC755CxS06RDx

To install or replace the battery for IC755CxS06RDx:

⚠**CAUTION**

Replace the battery for the IC755CxS06RDx only with Emerson battery part number IC755ACCBATT.
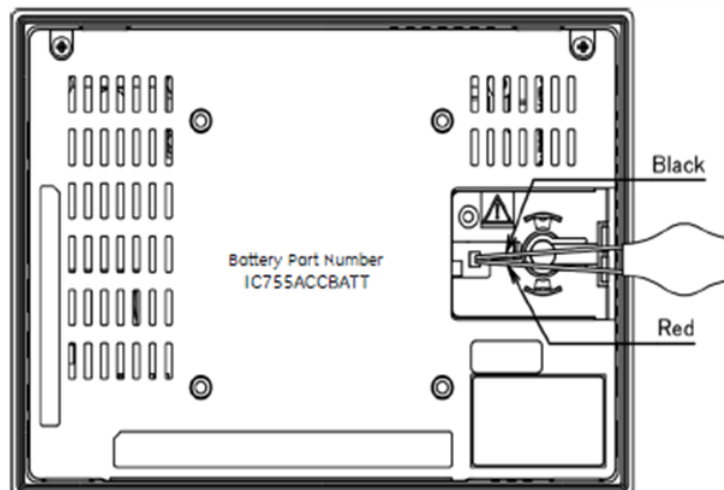
1. Remove the battery cover by pressing down while sliding outward.
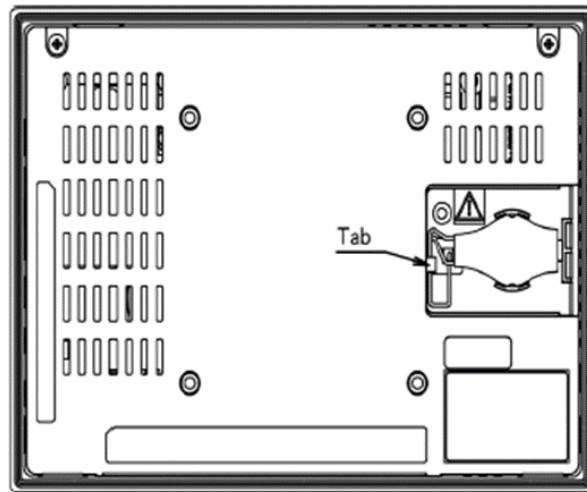
Figure 64: Battery Cover Removal IC755CxS06RDx

2. Connect the battery harness connector to the header, noting keyed orientation.

Figure 65: Battery Harness Connection IC755CxS06RDx

3. Verify that the positive (red) is down and the negative (black) is up.

4. Wrap the harness connector around to match the following figure. Do not let the harness connector go above the tab.

Figure 66: Harness Connector Orientation IC755CxS06RDx

5. Slide the battery cover into place, taking care not to pinch the harness connector.
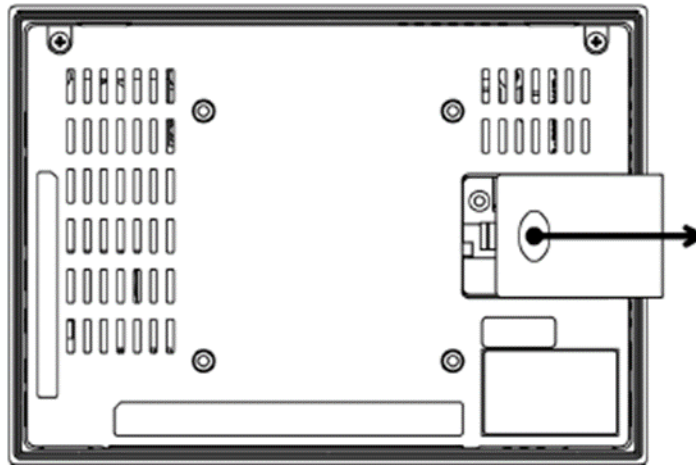
5.6.2   IC755CxW07CDx

To install or replace the battery for the IC755CxW07CDx:

> ⚠**CAUTION**
>
> Replace the battery for the IC755CxW07CDx only with Emerson battery part number IC755ACCBATT.
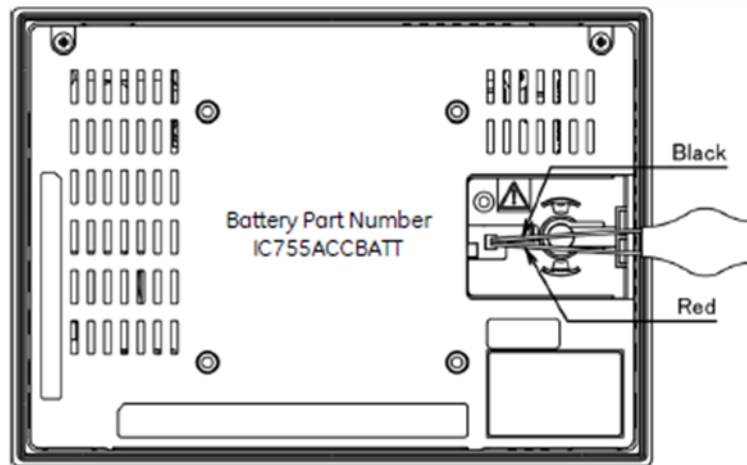
1. Remove the battery cover by pressing down while sliding outward.

Figure 67: Battery Cover Removal IC755CxW07CDx

2. Connect the battery harness connector to the header, noting keyed orientation.

Figure 68: Battery Harness Connection IC755CxW07CDx

3. Verify that the positive (red) connection is down and the negative (black) connection is up.

4. Wrap the harness connector around to match the following figure. Do not let the harness connector go above the tab.

Figure 69: Harness Connector Orientation IC755CxW07CDx
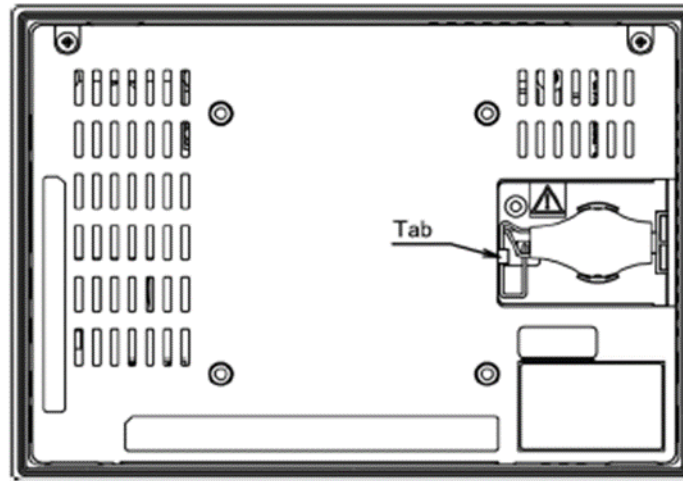
5. Slide the battery cover into place, taking care not to pinch the harness connector.
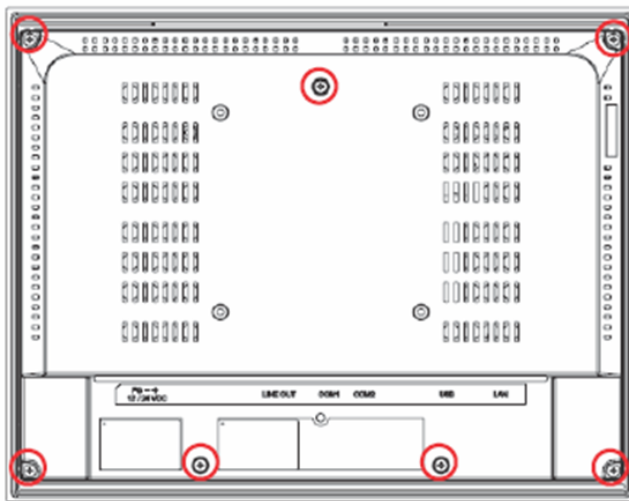
5.6.3 IC755CxSxxCDx

To install or replace the battery for the IC755CxSxxCDx:

> ⚠**CAUTION**
>
> Replace the battery for the IC755CxSxxCDx only with Emerson battery part number IC755ACCBATTNL.
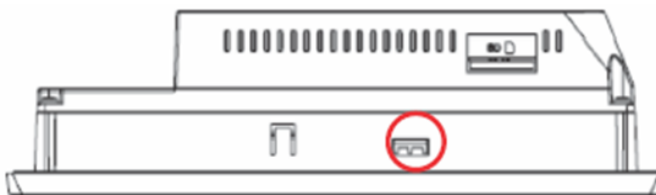
1. Remove the screws (quantity 7) from the back cover.

Figure 70: Screw Locations (Back Cover) IC755CxSxxCDx

2. Gently press on either side tab to release the back cover.

Figure 71: Release Cover by Pressing Side Tabs (IC755CxSxxCDx)

3. Lift and remove the back cover. The battery will be exposed on the back of the unit.

Figure 72: Coin Battery Location IC755CxSxxCDx

4. Gently remove the coin battery and replace it with a new one, noting the polarity of the battery.

5. Replace the battery cover and tighten all screws to 0.5 Nm (4.4 in-lb.).

5.7 Connectors

5.7.1 Power Connector Pin-Out for IC755CxS06RDx, IC755CxW07CDx, and IC755CxSxxCDx

Note: *Refer to Section 4.3.1, Connecting Input Power.*

Connector: Terminal Euro (Tyco Electronics 284539-3)

Mating Connector: (Tyco Electronics 284510-3)
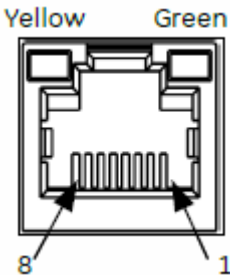
Pin #	Signal Name	Pin-Out
1	$^{+}$24 Vdc[2]	
2	GND	
3	FG	

---

[2] IC755CxSxxCDx supports both $^{+}$12 Vdc and $^{+}$24 Vdc IN

5.7.2   Ethernet for IC755CxS06RDx, IC755CxW07CDx, and IC755CxSxxCDx

The QuickPanel+ display is equipped with 10Base-T/100Base-TX Ethernet port(s). Connect an Ethernet network cable (unshielded-twisted pair, CAT 5) to the unit through the RJ-45 connector(s) on the bottom of the enclosure. LED indicators on the port indicate channel status. The port can be accessed by Windows Embedded Compact 7 network communications or by your application.

Ethernet Port Details

Interface: Ethernet 10BASE-T/100BASE-TX

Pin #	Signal Name	Pin-Out
1	TX+	
2	TX-	
3	RX+	
4	NC	
5	NC	
6	RX-	
7	NC	
8	NC	

Note: *Dual Ethernet ports are separate ports (applicable only to QuickPanel+ IC755CxSxxCDx 10", 12", and 15" display units)*

IP Address Setting

The QuickPanel+ Operator Interface provides two methods to set an IP address:

- DHCP (Dynamic Host Configuration Protocol)
- The network server assigns an IP address during QuickPanel+ initialization. There must be a DHCP server on the connected network for a valid IP address to be assigned. Contact your network administrator to ensure the correct DHCP server configuration.
- Manual Method
- Specify the numeric addresses obtained from your network administrator for the QuickPanel+ IP Address, Subnet Mask, and Default Gateway (if applicable).

Note: *Run the Backup Utility to save the settings.*

5.7.3   Serial Port Details

IC755CxS06RDx

Adhere to the following guidelines:

- A terminal block is supplied with the unit.

- The mating terminal block supports stranded 30 to 14 AWG (0.05 to 2.00 mm2) wires.

- At a minimum, the cable must be rated for 75°C (167°F), or more.

- Secure the serial cable to the mating connector while noting signal orientation and tighten the screw clamps.

- The torque for the attaching screws is 0.3 Nm (2.66 in-lb.).

Serial Port COM1 Details

Interface: x1 RS-232

Connector: Euro Terminal (Tyco Electronics 284539-5)

Mating Connector: Tyco Electronics 284510-5

Pin #	Signal Name	Pin-Out
1	TXD	**Figure 73: Serial Port COM1 Pin-Out IC755CxS06RDx**
2	RXD	
3	RTS	
4	CTS	
5	SGND	

IC755CxW07CDx

Adhere to the following guidelines:

- A terminal block is supplied with the unit.

- The mating terminal block supports stranded 30 to 14 AWG (0.05 to 2.00 mm2) wires.

- At a minimum, the cable must be rated for 75°C (167°F), or more.

- Secure the serial cable to the mating connector while noting signal orientation and tighten the screw clamps.

- The torque for the attaching screws is 0.3 Nm (2.66 in-lb.).

Serial Port COM1 Details

Interface: x1 RS-232

Connector: Euro Terminal (Tyco Electronics 284539-5)

Mating Connector: (Tyco Electronics 284510-5)

Pin #	Signal Name	Pin-Out
1	TXD	**Figure 74: Serial Port COM1 Pin-Out IC755CxW07CDx**
2	RXD	
3	RTS	
4	CTS	
5	SGND	

IC755CxSxxCDx

Note: *For an IC755CxS12CDA serial port, refer to Appendix C, Serial Port Details IC755CxS10CDx, IC755CxS12CDA, and IC755CxS15CDx.*

Adhere to the following guidelines:

- Terminal blocks are supplied.

- The mating terminal blocks support stranded 30 to 14 AWG (0.05 to 2.00 mm2) wires.

- At a minimum, the cable must be rated for 75°C (167°F), or more.

- Secure the serial cable to the mating connector while noting signal orientation and tighten the screw clamps.

- The torque for the attaching screws is 0.3 Nm (2.66 in-lb.).

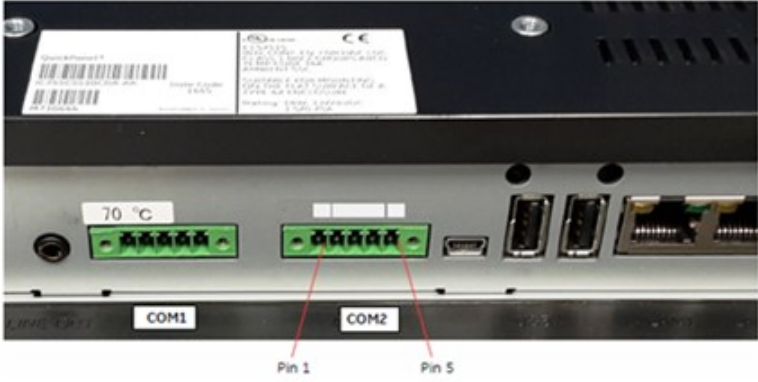## Serial Port COM1 Details

Interface: x1 RS-232C

Connector: Euro Terminal (Tyco Electronics 284539-5)

Mating Connector: Tyco Electronics 284510-5

Pin #	Signal Name	Pin-Out
1	TXD	**Figure 75: Serial Port COM1 Pin-Out IC755CxSxxCDx**
2	RXD	
3	RTS	
4	CTS	
5	SGND	

Serial Port COM2 Details

Interface: RS-232C/485 (default is RS-485 Half-duplex)

Pin #	Signal Name			Pin-Out
	RS–232C	RS-485 (Full-duplex[3])	RS-485 (Half-duplex)	
1	TXD	TXD+	DATA+[4]	**Figure 76: Serial Port COM2 Pin-Out IC755CxSxxCDx**
2	RXD	TXD-	DATA-[4]	
3	RTS	RXD+	DATA+[4]	
4	CTS	RXD-	DATA- [4]	
5	SGND	SG	SG	

DIP Switch Settings COM2 for RS-232C

DIPSW	Bit	ON/OFF	DIPSW	Bit	ON/OFF
SW2	1	OFF	SW4	1	OFF
	2	OFF		2	OFF
	3	OFF		3	OFF
	4	OFF		4	OFF
	5	ON		5	OFF
	6	ON		6	OFF
	7	OFF		7	OFF
	8	ON		8	OFF
SW3	1	ON	SW5	1	ON
	2	OFF		2	ON
	3	OFF		3	ON
	4	OFF		4	ON

[3] Full-duplex RS–485 is backwards compatible with RS–422 mode.

[4] Pins 1-3 and 2-4 are connected internally in half-duplex mode

Mounting and Installation

DIP Switch Settings COM2 for RS-422

DIPSW	Bit	ON/OFF	DIPSW	Bit	ON/OFF
SW2	1	OFF	SW4	1	ON
	2	OFF		2	ON
	3	OFF		3	OFF
	4	OFF		4	OFF
	5	ON		5	ON
	6	ON		6	ON
	7	OFF		7	OFF
	8	ON		8	OFF
SW3	1	OFF	SW5	1	OFF
	2	ON		2	OFF
	3	OFF		3	OFF
	4	OFF		4	OFF

Figure 77: Example of Full-Duplex (RS–422 Mode) Connection
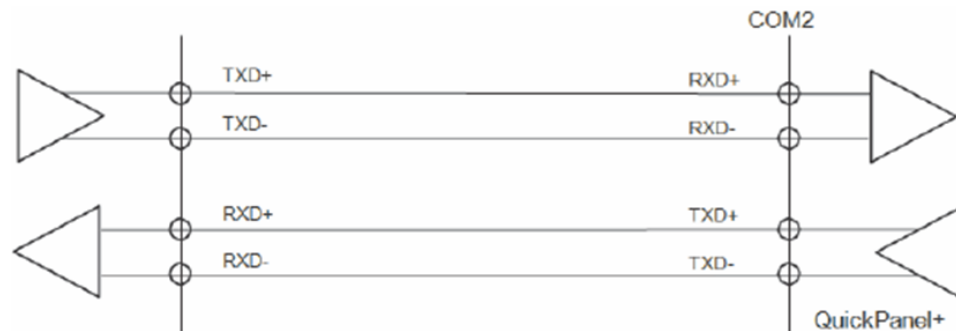
DIP Switch Settings COM2 for RS-485

DIPSW	Bit	ON/OFF	DIPSW	Bit	ON/OFF
SW2	1	OFF	SW4	1	ON
	2	OFF		2	ON
	3	ON		3	ON
	4	OFF		4	ON
	5	ON		5	ON
	6	ON		6	ON
	7	OFF		7	OFF
	8	ON		8	OFF
SW3	1	OFF	SW5	1	OFF
	2	ON		2	OFF
	3	OFF		3	OFF
	4	ON		4	OFF

Figure 78: Example of Half-Duplex (RS–485 Mode) Connection
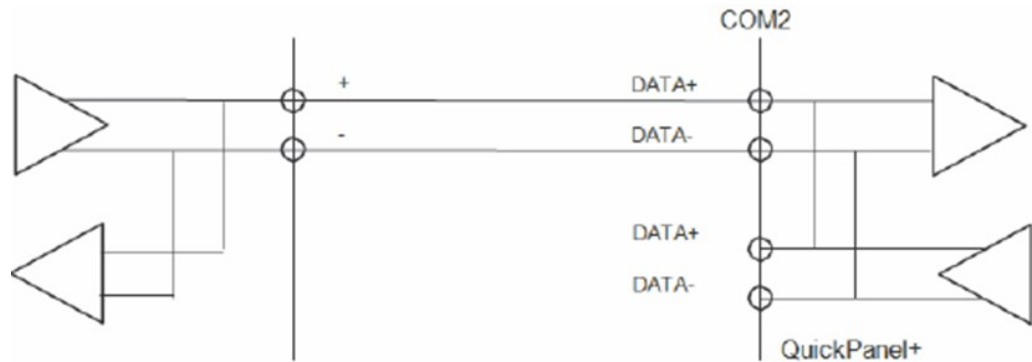
5.7.4   Universal Serial Bus (USB) Ports

USB Host Port Details for IC755CxS06RDx, IC755CxW07CDx, and IC755CxSxxCDx

The QuickPanel[+] has two full-speed USB 2.0 host ports. A variety of third-party USB peripheral devices is also available. Each connected USB device requires a specific driver. The driver supplied with the QuickPanel[+] is for optional keyboard or mouse support; other devices require installation of the custom driver software.

Interface: USB 2.0

Number of Ports: Two

Connector: Type-A connector

Maximum Supply Current: 0.5 A (per port)

Pin #	Signal Name	Pin-Out
1	USB_VCC	
2	USB_D-	
3	USB_D$^+$	
4	USB_GND	

USB Device Port Details for IC755CxS06RDx, IC755CxW07CDx, and IC755CxSxxCDx

The USB device port allows the QuickPanel+ Operator Interface to be used as a Slave device.

Interface: USB 2.0

Number of Ports: One

Connector: Type-B Mini connector

Pin #	Signal Name	Pin-Out
1	VCC	
2	D-	
3	D+	
4	NC	
5	GND	

Serial USB and Ethernet USB Adapters for All Models Using Adapters

Recommended adapters are as follows:

- Serial USB adapters based on FTDI chipset

- Ethernet USB adapters based on ASIX AX88179 or AX88772B

Note: *For serial USB adapters (USB to RS-485 and such), configure the correct COM port depicted in the System Info tool and configure the same port in the Driver configuration. In the System Info tool, the USB ports shown (COM3, COM4) is based on the USB connection sequence on the device, and need to be configured accordingly.*

Wi-Fi Support for All Models Using Adapters

Recommended USB Wi-Fi adapters based on the Ralink chipset are as follows:

- RT–2070

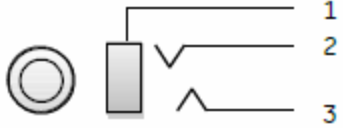- RT–2870

- RT–3070

- RT–3071

- RT–3072

5.7.5　　Audio (LINE OUT) Details for IC755CxS06RDx, IC755CxW07CDx, and IC755CxSxxCDx

Interface: LINE OUT (stereo)

Number of Ports: One

Connectors: Ø3.5 mm jack

Maximum output level: 1 Vrms

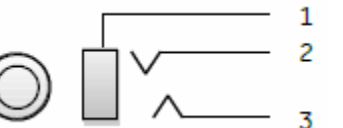| Pin #	Signal Name	Pin-Out
1	GND	
2	Lineout R	
3	Lineout L	

5.7.6　　Audio (MIC IN) Details (Applicable only to IC755CxS06RDx and IC755CxW07CDx)

Interface: MIC IN (monaural)

Number of Ports: One

Connectors: Ø 3.5 mm jack

Maximum output level: 250 mVrms

Pin #	Signal Name	Pin-Out
1	GND	
2	Lineout R	
3	Lineout L	

5.7.7   SD Card Slot and Storage

The QuickPanel⁺ is equipped with one standard SD Card port. SD/SDHC memory cards are supported. The SD card slot is spring-loaded for easy insertion and removal.

Note: *Micro SD slot is not supported on the 6" display unit (IC755CxS06RDx).*

Connectors: SD card slot (push in-push out method)

Card support: SD/SDHC memory card

Maximum capacity: 32 GB

Note: *During insertion, observe the orientation of the SD card as displayed in the following figures.*

Figure 79: SD Card Location IC755CxS06RDx
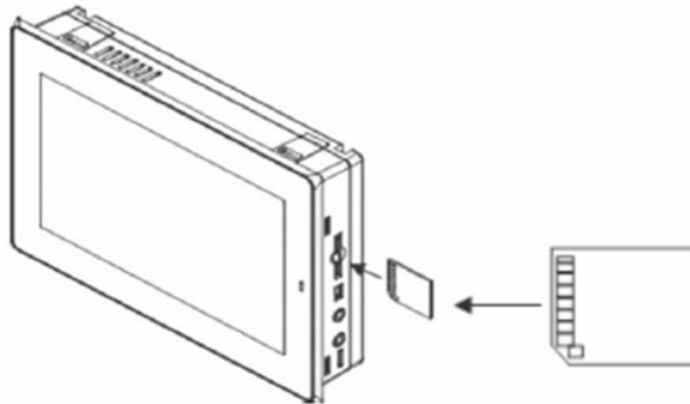
Figure 80: SD Card Location IC755CxW07CDx
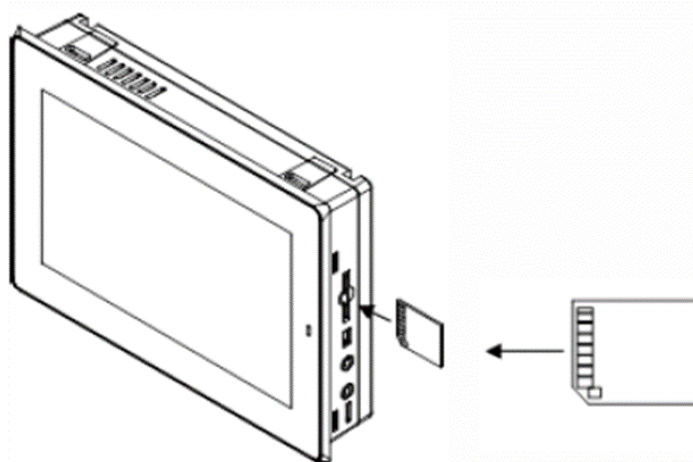
Figure 81: SD Card Location IC755CxSxxCDx
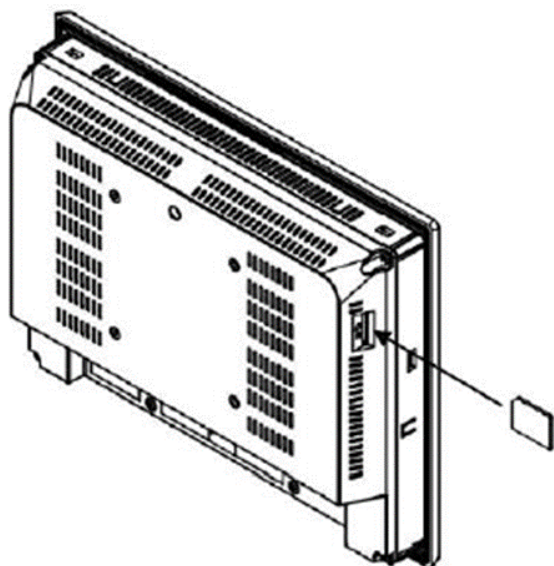
Section 6:   Operation

6.1   Touchscreen Display

The QuickPanel+ Operator Interface features a LED Backlight LCD touchscreen display with two-point touch technology. The touch technology is based on projected capacitance that allows finger tracking without pressured contact. It is conducive to smooth scrolling and multi-touch gesturing capability. Display brightness and backlight operation can be configured using the QuickPanel+ Setup tool available in the program system menu.

⚠ CAUTION

Although Emerson recommends the use of the protective sheet, do not operate the touchscreen with any hard materials, such as a screwdriver. This could damage the touchscreen display.

Note: *IC755CxS06RDx (6" display) is an Analog Resistive touch display that does not support two-point touch capability. Single point gestures such as swipe, pan, and double-tap are supported.*

6.1.1   Display Brightness Adjustment

To adjust the brightness of the display

1. Open the **QuickPanel+ Setup Tool** and select the **Backlight** tab to display the Backlight Display Properties window.

2. Set the backlight brightness value.

**Figure 82: Adjust Display Brightness**
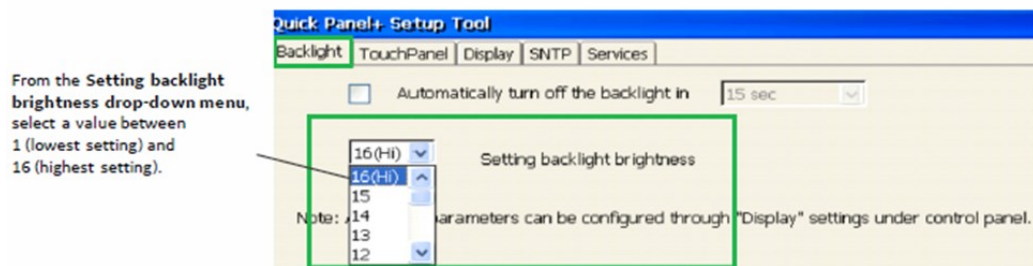
3. Tap **OK** to exit the QuickPanel+ Setup Tool.

4. Run the Backup Utility to save the settings

6.1.2   Display Backlight Configuration

To configure the display backlight

1. Open the **QuickPanel⁺ Setup Tool** and select the **Backlight** tab to display the Backlight Display Properties window.

2. Set the backlight to automatically turn off in a specific amount of time.

Figure 83: Adjust Display Brightness
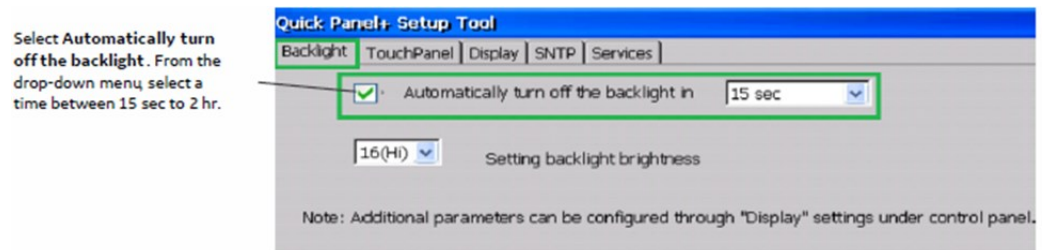
3. Tap **OK** to exit the QuickPanel⁺ Setup Tool.

4. Run the Backup Utility to save the settings.

6.1.3   Touchscreen Recalibration

The QuickPanel⁺ touchscreen is shipped pre-calibrated. However, if there are any issues with touchscreen responsiveness, it may need to be recalibrated.

To recalibrate the touchscreen

1. Open the **QuickPanel⁺ Setup** tool.

2. Select the **TouchPanel** tab.

3. Select **Recalibrate Touch Screen**.

4. Select **Recalibrate Touch Sensor**.

Note: *During IC755CxS06RDx or IC755CxW07CDx touchscreen sensor re-calibration, the user is prompted to activate a switch located in the battery compartment. This does not apply to any other display units.*

5. Remove the battery cover and press the switch shown in Figure 84.

Figure 84: Touchscreen Sensor Calibration Switch
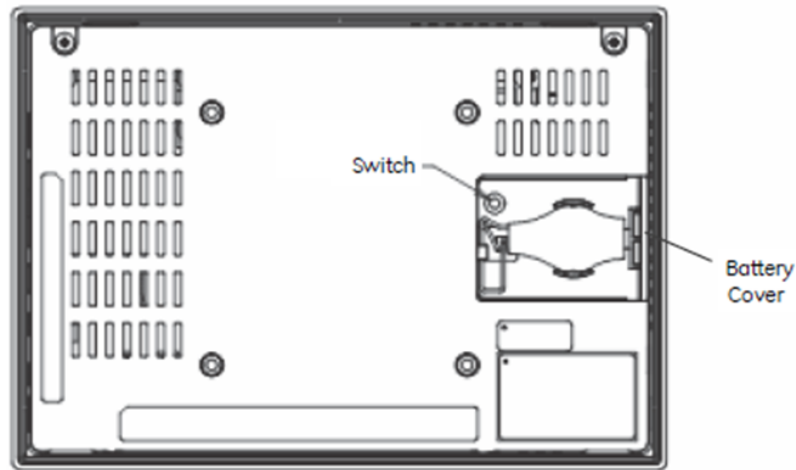
6. Replace the battery cover.

6.2 Keyboard Configuration

The QuickPanel+ Operator Interface can be configured to use either or both a hardware keyboard and a software emulation keyboard as operator data input devices. Typically, an optional external hardware keyboard is used when in development mode, while the included Soft Input Panel (SIP) is more applicable in an operational environment.

6.2.1 External Keyboard (Optional)

Any USB-compatible keyboard may be used as an input device for the unit. The USB driver for the keyboard is included with the operating system and no configuration is required. To use an external keyboard, connect the keyboard to the unit using the USB cable.

6.2.2 Soft Input Panel

The Soft Input Panel (SIP) is a touchscreen keyboard that may be used in place of a standard hardware keyboard. An icon in the system tray enables the user to view or hide the SIP.

To show or hide the SIP:

*   from the system tray located on the taskbar, tap the icon and select Hide Input Panel.

Note: *When visible, the SIP can be moved around the screen by dragging the title bar to reveal parts of the screen that would be obstructed from view by the SIP.*

6.3   Mouse

Any USB-compatible mouse may be used as an input device for the unit. The USB driver for the mouse is included with the operating system and no configuration is required. To use an external mouse, plug it into the appropriate port.

6.4   Printing

⚠ WARNING

USB-connected printers will violate the electrical compliance ratings. They can only be used for maintenance and are not supported as a standard service.

The QuickPanel[+] Operator Interface supports printing with PCL v5 compatible laser and inkjet printers. The printer can be connected by either USB (on models with USB ports) or by a network shared printer over Ethernet. The control panel applet Printers is used to configure the port connection and other general printing options.

For the fastest printing performance, select draft mode and portrait orientation, and disable color for print settings. These settings also minimize the amount of memory needed to print a document.

The built-in driver has a document spooling function to improve GUI performance. This spooler supports only one document at a time. However, on an Ethernet-connected printer, the print server usually supports multiple documents in its queue. Windows Embedded Compact 7 does not support the ability to observe which documents are queued up at the printer.

For a list of printers that are compatible with that QuickPanel[+] Operator Interface, refer to the document Third-Party Device Compatibility (KB8259).

6.5 Memory

6.5.1 DRAM Memory

The QuickPanel+ Operator Interface is equipped with Dynamic RAM (DRAM). Part of the DRAM is reserved for the Windows operating system and is not accessible by user applications. The remaining memory is split between two functions: an object store for temporary file storage and the main memory for running programs.

Typically, compressed programs stored in flash memory are expanded and moved to DRAM for execution. The temporary storage of program variables or data files is also provided by DRAM. Any data stored in DRAM is not retained through a power cycle or restart.

The split between program memory and storage memory can be adjusted as necessary to make more room for one or the other, depending on specific application needs. For example, if an application is short of memory, alter the DRAM memory allocation from the System Properties window.

⚠ CAUTION

Setting the Program Memory too low may prevent additional applications from starting, or may cause currently running applications to fail due to lack of memory.

Setting the Storage Memory too low may prevent the saving of files into the object store portion of the file system, which may also cause application failures.

For the QuickPanel+ 6" display unit, setting the Storage Memory too high or to an extreme limit may cause the device to become unresponsive. The device may be unable to launch any applications or windows and it may also require a power cycle. It is recommended that the Storage Memory be set to a valid limit.

6.5.2   Memory Allocation Modification

To change the memory allocation

1. From the Control Panel, double-tap **System** to display the System Properties window.

2. From the **Memory** tab, drag the slider bar to divide into Storage and Program memory. The amount of memory allocated to and used by each area is displayed in the window. The blue slider bar indicates the current amount of unallocated SDRAM and determines the boundaries within which the slider can move.

Figure 85: System Memory Slide Bar Display

Note: *Storage memory is limited to a maximum of 128 MB. Using the slide bar to increase storage memory will provide more RAM-based storage in the folder \Object Store.*

3. Tap **OK** to apply the new setting.

4. Run the Backup Utility to save the settings.

Section 7:   Secomea Security (Optional)

7.1   Secomea Configuration Tool

Note: *The SiteManager™ and its related GateManager™, LinkManager™, and LinkManager™ Mobile
            products are licensed, sold, and supported by Secomea and Secomea's licensed distributors.
            Additional information is available at www.secomea.com.*

Secomea SiteManager software (also known as the Secomea
Configuration tool) is installed on QuickPanel+ products. The Secomea
Configuration tool enables the user to configure and enable the
QuickPanel+ device on the Secomea network.

Note: *It is recommended that you have a Network Architect on-site and be working with the Secomea
            team to enable this functionality.*

To access the Secomea Configuration tool and enable the QuickPanel+ on
the Secomea network

1. From the QuickPanel+ Start menu, select Programs to display the
    Secomea Configuration tool window.

2. Enable the QuickPanel+ device on the Secomea network.

Figure 86: System Memory Slide Bar Display

Note: *The Appliance Name can be any name but should be unique so that the Secomea network can
            identify the device. Proxy Address allows the user to connect from their local network with firewall
            enabled and blocking ports 80, 443, and 11444. The SiteManager will attempt to establish a
            connection with and without proxy.*

7.2   Secomea Products

Note: *Activation and deployment of the Secomea product features are optional. SiteManager, GateManager, and LinkManager products are licensed, sold, and supported by Secomea and Secomea's licensed distributors.* QuickPanel+ customers wanting to activate licenses for Secomea products can do so at *www.secomea.com*.

The available Secomea SiteManager (embedded on QuickPanel+), GateManager, and LinkManager products are described as follows:

SiteManager is a device-monitoring front-end feature for multiple industrial devices on a location. Working with GateManager and LinkManager ensures uninterrupted and secure access to remote devices over the Internet or a private Wide-area Network (WAN) for all users.

LinkManager is an off-the-shelf software component in Remote Device Management Solutions from Secomea that provides security for external programming and monitoring applications. **LinkManager Mobile** provides similar functionality for mobile devices.

GateManager is the central component of Secomea's Industry solution. The GateManager M2M Server operates as a termination point for all LinkManagers and SiteManagers. All connections and the encrypted traffic between LinkManagers and devices controlled by SiteManagers are handled by the GateManager, where all events are also logged.

Note: *The GateManager is typically offered as a service hosted by Secomea. Users will receive an isolated domain on the GateManager and benefit from central hosting and backup by Secomea. Or the user can host their own GateManager.*

Additionally, other devices such as PLCs and PCs (in addition to the QuickPanel+) can be added as new agents on the Secomea network to be part of Secured Communication using the Add Agents feature in the SiteManager GUI. This can be achieved using an extended license feature from Secomea.

Note: *Secomea products installed throughout the application as suggested in Figure 87* do not intrinsically provide the level of security associated with firewalls. The network architect needs to satisfy himself or herself that the security level required by the application is present in the overall implementation.

Figure 87: Secomea Products used with QuickPanel⁺ in Application
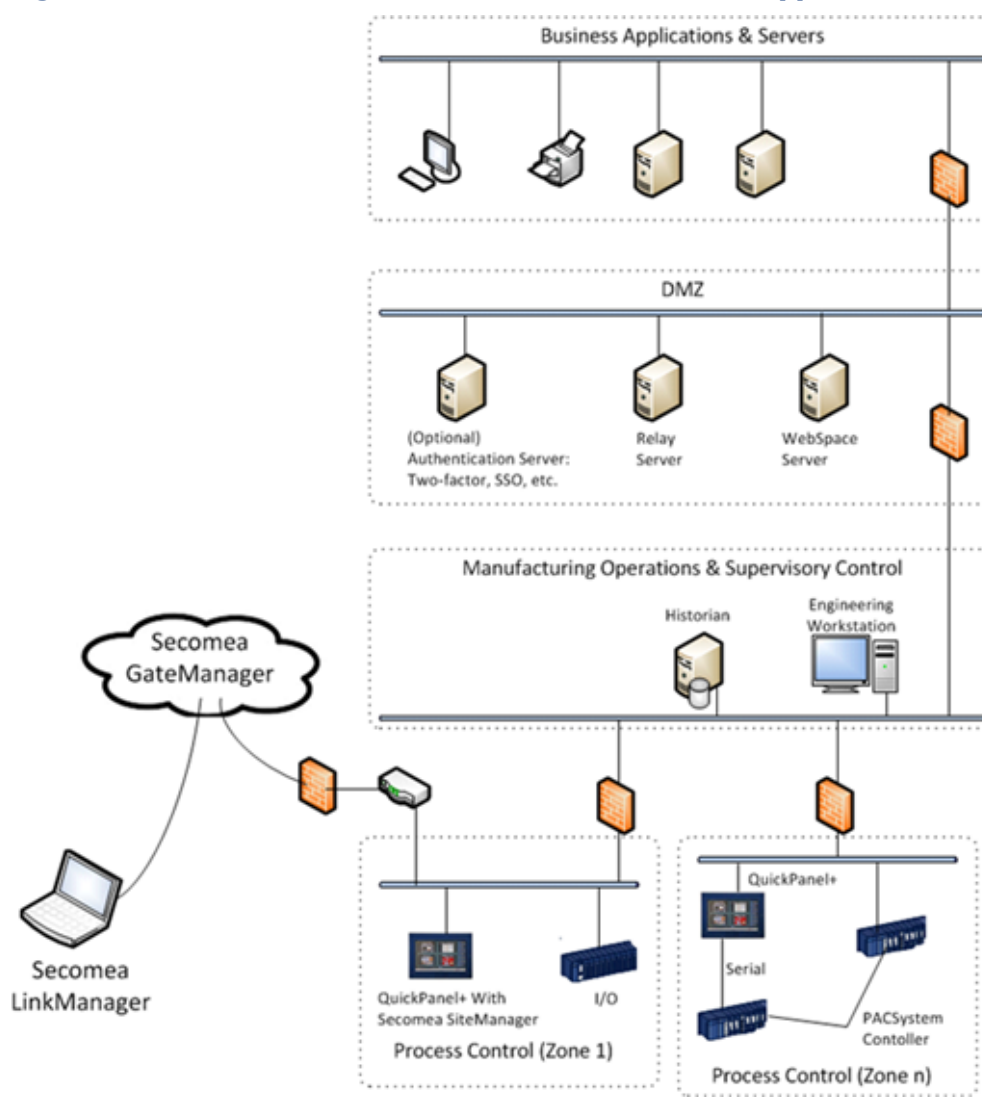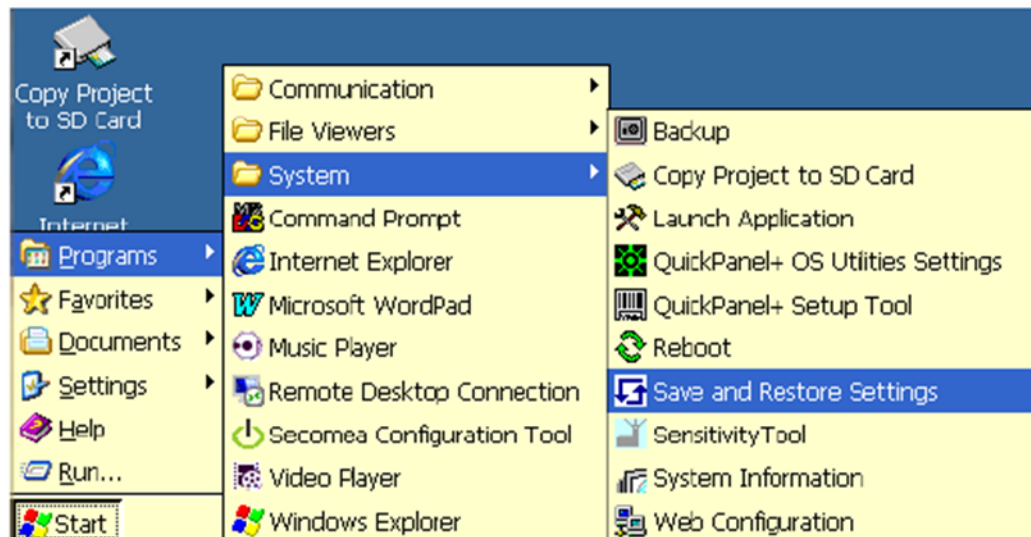
Section 8:   Save and Restore Settings

Save and Restore Settings enables the device to store the settings of certain parameters of QuickPanel+ to a file (the extension assigned to this file type is .qps) and then apply/restore the saved settings to the same QuickPanel+ or any other QuickPanel+ from the saved .qps file, whenever required.

8.1   Menu Item Location

The menu item for launching the feature is present in the System menu.

Figure 88: Navigate to Save and Restore Settings

The Save and Restore Settings feature box has two associated tabs:

1.   Settings

2.   Registry

Settings Tab – This tab has the different names of different settings that the user can select to save the settings value to the file.

Note:

- *The settings tab of the Save and Restore Settings dialog is not used for setting the values for any device parameters. It is only used to make the selection of the parameter settings, that the user wants wishes to a file.*

- *The feature supports saving and restoring static IP addresses.*

Registry Tab – This tab provides the option to the user to update values to keys in the device registry and save these records to the file so that the stored values can be restored to the corresponding keys, on the same QuickPanel+ at a later time, or, if needed, also on a different QuickPanel+.

Figure 89: QP+ Save Settings tab
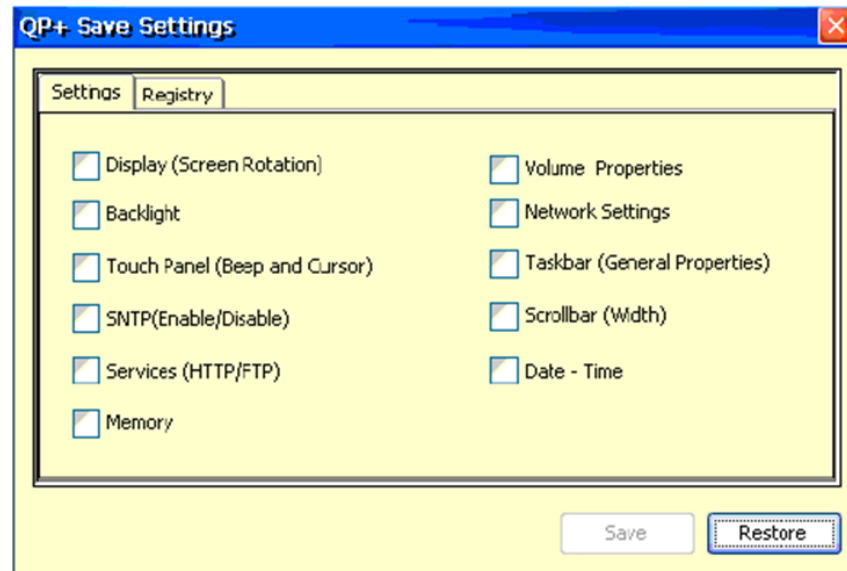
Figure 90: QP+ Save Settings Registry Tab
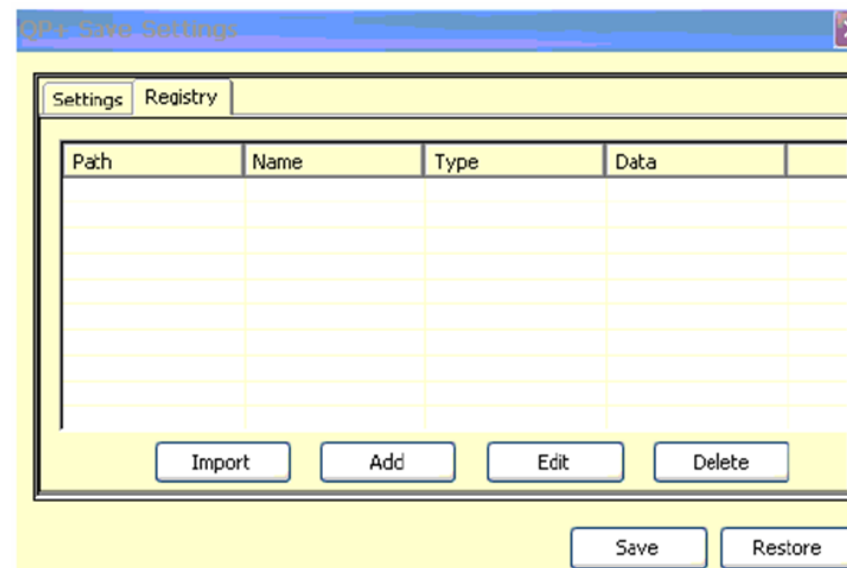
To update the value to a registry key click on the Add button (Figure 90). This displays a dialog (Figure 91) to enter the values for Key Path, Name, Type, and value. After entering the values click the OK button to close the dialog, and the entered data may be viewed as a record in the Registry tab.

Figure 91: Add Registry Key Dialog Box

The entered data can be edited by selecting the record in the list box and clicking on the Edit button. This opens the dialog box that allows the user to edit the data.

Figure 92: Registry List Display

8.2   Import Registry Data from XML File

An alternate method to input the data to the registry is by using the Import option where the registry value data is available in an XML file and then imported using the Import option in the dialog. The schema of the XML data can be seen in the screenshot below.

Figure 93: XML Schema for Registry
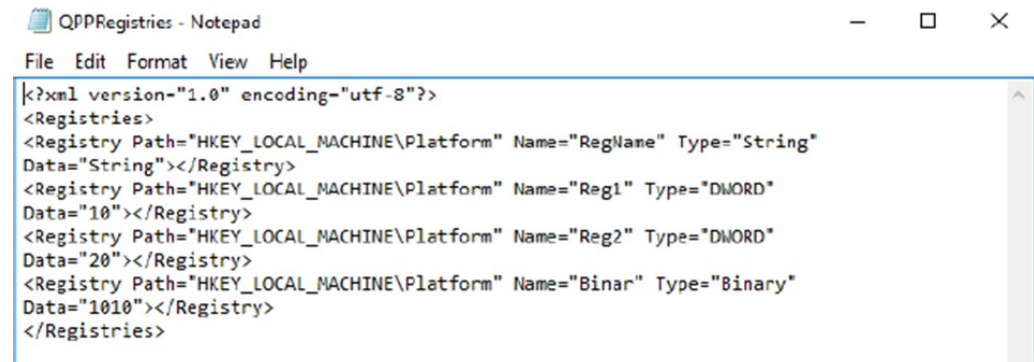
On clicking the **Import** button, you may browse to select the XML file to be imported.

Figure 94: Import XML Feature
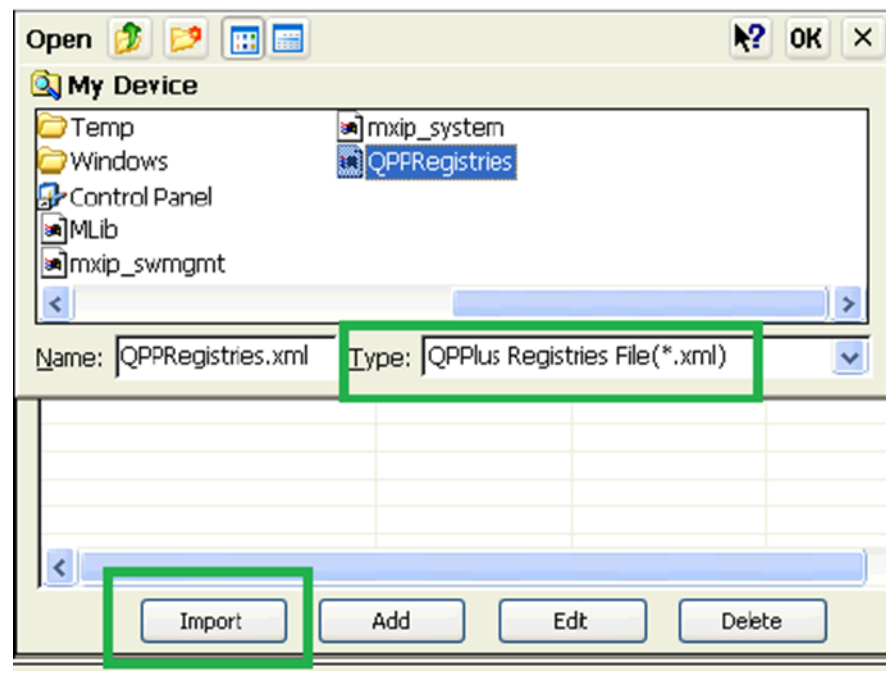
Note: *The feature does not support editing any registry keys inside HKEY_CLASSES_ROOT.*

8.3 Save the Settings to a File

To save the settings and registry values to a file, click on the Save button. This displays the file save dialog, allowing the user to select the folder location and provide the file name. Click the **OK** button to complete the creation and saving of data to the file.

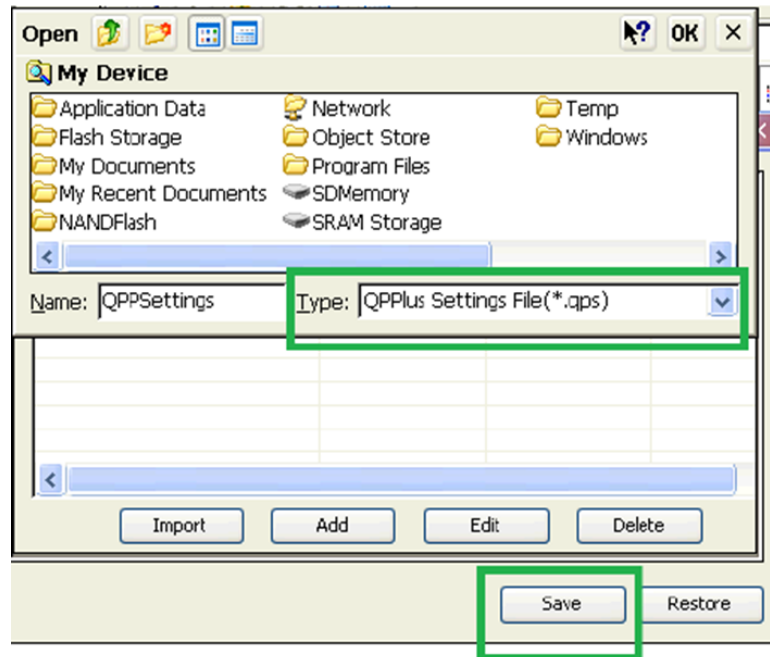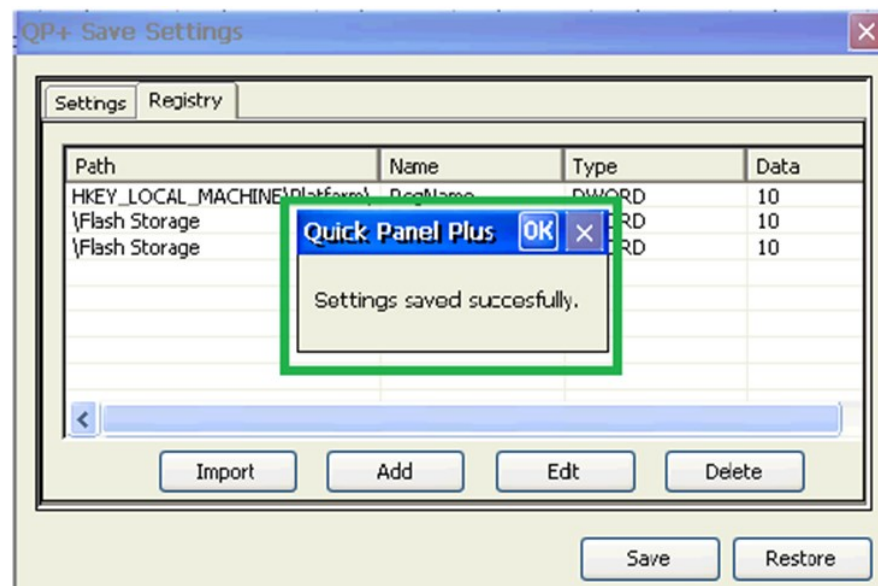**Figure 95: Saving the Settings and Registry Values to a File**

Figure 96: Save Function Successful Notification

8.4 Restore the Settings from a (.qps) File

To restore the settings from a file to a QuickPanel[+], the following steps need to be executed:

1. Make sure that the file is browsable from the target QuickPanel[+].

2. Click on the **Restore** button and select **Yes** when prompted for confirmation.

3. In the Open File dialog, browse and select the (.qps) file from which you would like to restore the data, then click on the **OK** button.
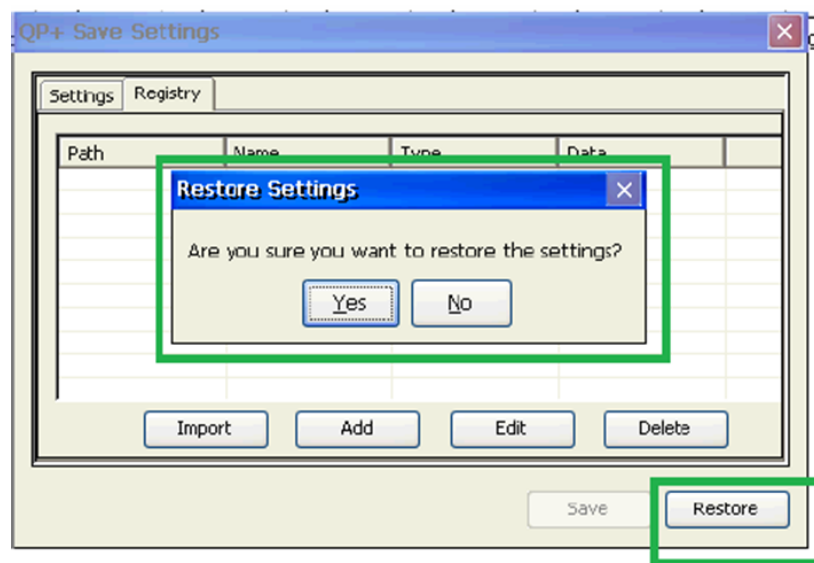
Figure 97: Restore Function

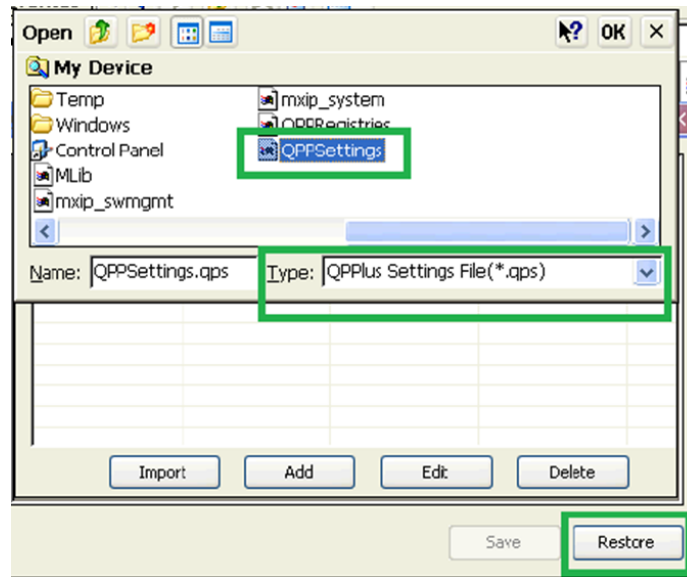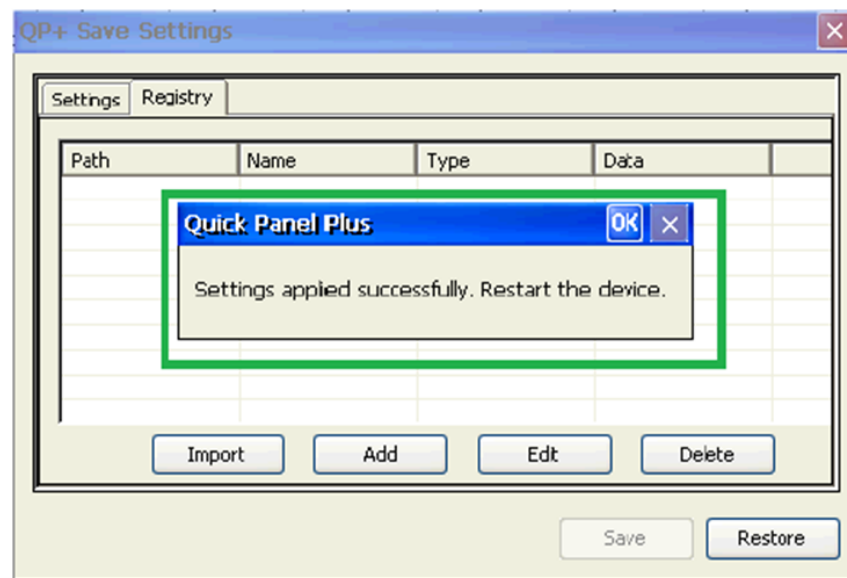**Figure 98: Browse to and Select .qps File**

Figure 99: Settings Restored Notification

On clicking the **Save** or **Restore** button, an Enhanced Security enabled QuickPanel+ device will prompt the user for the Enhanced Security password. The corresponding operation will be executed only on successful authentication.

Figure 100: Password Entry Required for Enhanced Security Enabled QP⁺
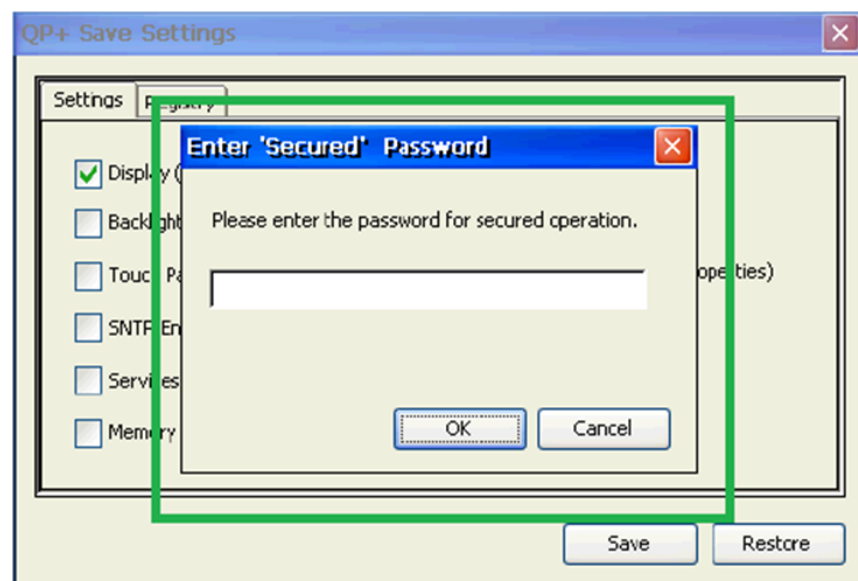
Appendix A Product Certifications and Installation Guidelines

The QuickPanel+ Operator Interface is intended for use in industrial environments and, when properly installed, shall comply with the agency approvals listed in this document.

A-1   Agency Approvals

Note: *The agency approvals listed in the following table and on the Declaration of Conformities are believed to be accurate; however, the product's agency approvals should be verified by the marking on the unit itself.*

Description	Agency Marking	Comments
N.A. Safety for Programmable Controller for use in Hazardous Locations Class I Division 2 Groups A, B, C, D (applicable to 7'', 10'', 12'', and 15" Display units) Class I Division 2 Groups A, B, C, D; Class 2 Division 2 Groups F, G; Class 3 Division 1 and Division 2 (applicable to 6'' Display unit only)	c (UL) US LISTED	Certification by Underwriter's Laboratories to UL 61010-1; UL61010-2-201; CSA C22.2 No 142 – M1987; CSA 61010-1; CSA 61010-2-201 ISA 12.12.01 standard and CSA C22.2 No 213-M1987
Explosive Atmospheres Directive European Safety for Hazardous Areas Equipment Group II, Category 3, Gas Groups IIC, Dust Group IIIC	⟨Ex⟩	Certification in accordance with the ATEX Directive 14/34/EU with an Independent 3rd Party Assessment Certificate only applies to the 12" and 15" Display units: EN 60079-0/A11, EN 60079-15, and EN 60079-31; Part numbers: IC755CSW07CDACA, IC755CSS10CDACA, IC755CSS12CDBCA, IC755CSS15CDACA
Electromagnetic Compatibility Directive European Electromagnetic Compatibility (EMC) for Industrial Control Equipment	C E	Self-declaration in accordance with European Directives EN61000-6-2, EN61000-6-4
Maritime Society Certification	No Marking, verified by a certificate	American Bureau of Shipping (ABS), Det Nortske Veritas/Germanischer Lloyds (DNV-GL), and Bureau Veritas (BV) certification on conformally coated 6", 7", 10", 12", 15" units only

A-2 Conditions of Safe Use for Installation in Hazardous Locations

The following information applies to products bearing the UL marking for Hazardous areas and the ATEX marking for Zone 2 explosive atmospheres:

- Suitable for use in Class I Division 2 Groups A, B, C, D; Class 2 Division 2 Groups F, G; Class 3 Division 1 and Division 2.

- Suitable for Group II, Category 3, Gas Groups IIC, Dust Group IIIC (applicable only to the IC755CSW07CDACA, IC755CSS10CDACA, IC755CSS12CDBCA, and IC755CSS15CDACA Display units):

    1. The equipment shall only be used in an area of at least pollution degree 2, as defined in IEC 60664-1.

Note: *Pollution degree 2 can be achieved when the installation is in a controlled environment with suitably controlled condensation of airborne pollution*

    2. The equipment shall be installed in an enclosure that provides minimum ingress protection of IP 54 in accordance with IEC 60079-0.

    3. Transient protection shall be provided that is set at a level not exceeding 140% of the peak rated voltage value at the supply terminals to the equipment.

A-3 12CDBCA and 15CDACA

The USB retaining clamp for IC755CxS12CDBCA and IC755CxS15CDACA must be used in hazardous location installations as follows:
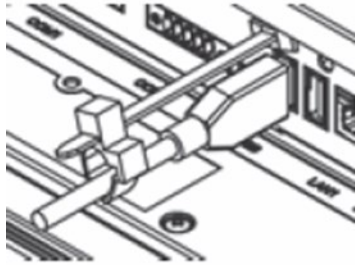
1. Connect the USB cable.

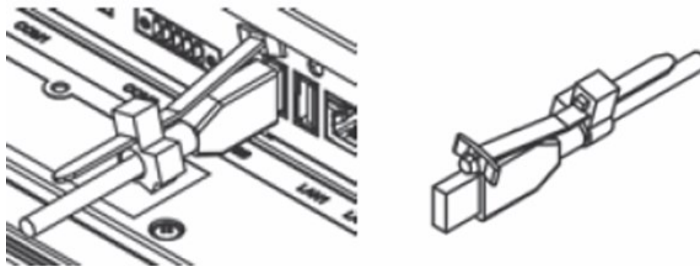**Figure 101: Connect the USB cable to QuickPanel⁺**
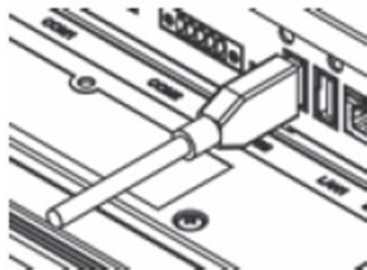
2. Insert the retaining clamp in the port above the USB connector.

Figure 102: Attach Retaining Clamp

3. Adjust the position of the retaining clamp by pushing the lever on the retaining clamp. Then close the retaining clamp to fit the cable size.

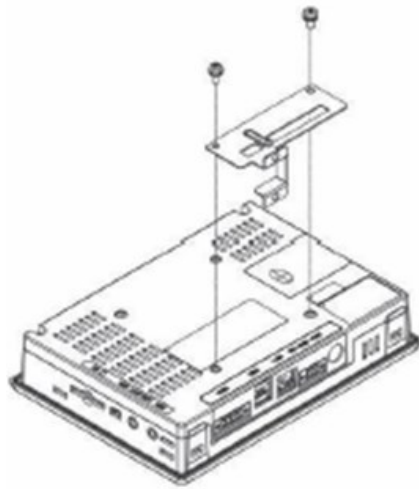**Figure 103: Adjust Retaining Clamp**

A-4   07CDACA

The USB retaining clamp for **IC755CSW07CDACA** must be used in hazardous location installations as follows:
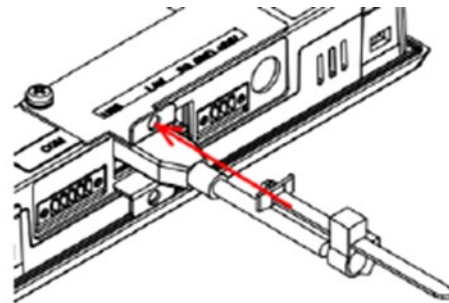
1.   Connect the USB retaining clamp plate.

**Figure 104: Attach USB Retaining Clamp Plate**

2.   Connect the USB cable and insert the retaining clamp into the retaining clamp plate.

Figure 105: Insert Retaining Clamp into Retaining Clamp Plate

3.   Adjust the position of the retaining clamp by pushing the lever on the retaining clamp. Then close the retaining clamp to fit the cable size.

Figure 106: Insert Retaining Clamp into Retaining Clamp Plate
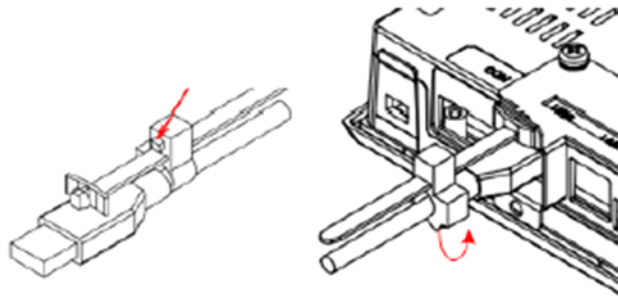
⚠ WARNING

- EXPLOSION HAZARD — Do not connect or disconnect equipment power, communication, audio, or battery unless power has been removed or the area is known to be non-hazardous.

- EXPLOSION HAZARD — Substitution of components may impair suitability.

- EXPLOSION HAZARD — DO NOT VESA MOUNT. Panel mounts only with enclosures that shall only be opened with the use of a tool in an area where the risk of impact is low.

- DO NOT MAKE ANY CONNECTIONS TO THE MINI-USB/MIC TERMINAL AS IT WILL INVALIDATE THE ATEX APPROVAL. If this equipment is used in a manner not specified by the manufacturer, equipment protection may be impaired.

A-5   EMC   Installation   and   Operation Considerations

This equipment is intended for industrial use only and complies with a minimum level of EMC performance as defined by EN 61000-6-2 and EN 61000-6-4 standards. To meet these requirements, the following installation and operation considerations were taken into account:

- Shielding USB cables

- Limiting RS-232 cables to 15 m (49.2 ft) in length

- Using Audio ports only during operational maintenance

Although these considerations were deliberated during testing, actual EMC environments vary greatly. Therefore, these considerations may not be necessary. Likewise, additional measures, such as filtering, wire separation, and cable routing, may need to be considered to ensure the intended operation of the overall system.

A-6   Government Regulations

The FCC requires the following note to be published according to FCC guidelines:

Note: *This equipment has been tested and found to comply with the limits for a 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 which case the user will be required to correct the interference at his own expense.*

Changes or modifications to this unit that are not expressly approved by Emerson could void the user's authority to operate the equipment.

Industry Canada requires the following note to be published:

Note: *This Class A digital apparatus complies with Canadian CAN ICES 3 (A)/NMB 3(A).*

Appendix B Orderable Part Numbers

QuickPanel⁺ Operator Interface Part Numbers

Part Number	Description
IC755CSS06RDA	QuickPanel⁺ 6" Color TFT with Resistive Touch Screen, Emerson Monogram Bezel, 24 Vdc Powered
IC755CBS06RDA	QuickPanel⁺ 6" Color TFT with Resistive Touch Screen, Blank Bezel, 24 Vdc Powered
IC755ACC07GAS	QuickPanel⁺ 6" Replacement Gasket
IC755ACCBATT	QuickPanel⁺ 6" Replacement Battery Pack
IC755CSW07CDx	QuickPanel⁺ 7" Color TFT Widescreen with Multi-Touch Projected Capacitive Screen, 24 Vdc Powered
IC755ACC07GAS	QuickPanel⁺ 7" Replacement Gasket
IC755ACC07MNT	QuickPanel⁺ 7" Accessory Kit - Replacement Mounting Clips, Power and Serial Port Connectors
IC755ACC07PRO	QuickPanel⁺ 7" Replacement Screen Protectors (Qty 3)
IC755CSW07CDACA	QuickPanel⁺ 7" with Conformal Coating
IC755ACC07ADP	QuickPanel⁺ Panel Adapter Kit - 8" QuickPanel View/Control to QuickPanel⁺ 7"
IC755ACCBATT	QuickPanel⁺ 7" Replacement Battery Pack
IC755CSS10CDx	QuickPanel⁺ 10" Color TFT with Multi-Touch Projected Capacitive Screen, 12/24 Vdc Powered
IC755ACC10GAS	QuickPanel⁺ 10" Replacement Gasket
IC755ACC10MNT	QuickPanel⁺ 10" Accessory Kit - Replacement Mounting Clips, Power and Serial Port Connectors
IC755ACC10PRO	QuickPanel⁺ 10" Replacement Screen Protectors (Qty 3)
IC755CSS10CDACA	QuickPanel⁺ 10" with Conformal Coating
IC755CSS12CDx	QuickPanel⁺ 12" Color TFT with Multi-Touch Projected Capacitive Screen, 12/24 Vdc Powered
IC755ACC12GAS	QuickPanel⁺ 12" Replacement Gasket
IC755ACC12MNT	QuickPanel⁺ 12" Accessory Kit - Replacement Mounting Clips, Power and Serial Port Connectors
IC755ACC12PRO	QuickPanel⁺ 12" Replacement Screen Protectors (Qty 3)
IC755CSS12CDBCA	QuickPanel⁺ 12" with Conformal Coating
IC755CSS15CDx	QuickPanel⁺ 15" Color TFT with Multi-Touch Projected Capacitive Screen, 12/24 Vdc Powered
IC755ACC15GAS	QuickPanel⁺ 15" Replacement Gasket
IC755ACC15MNT	QuickPanel⁺ 15" Accessory Kit - Replacement Mounting Clips, Power and Serial Port Connectors
IC755ACC15PRO	QuickPanel⁺ 15" Replacement Screen Protectors (Qty 3)
IC755CSS15CDACA	QuickPanel⁺ 15" with Conformal Coating
IC755ACCBATTNL	QuickPanel⁺ 10", 12", 15" Replacement Battery Pack

Appendix C Serial Port Details IC755CxS10CDx, IC755CxS12CDA, and IC755CxS15CDx
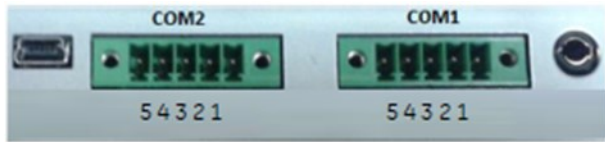
Adhere to the following guidelines:

- A terminal block is supplied.

- The mating terminal block supports stranded 30 to 14 AWG (0.05 to 2.00 mm2) wires.

- At a minimum, the cable must be rated for 75°C (167°F), or more.

- Secure the serial cable to the mating connector while noting signal orientation and tighten the screw clamps.

- The torque for the attaching screws is 0.3 Nm (2.66 in-lb.).

Interface: x1 RS–232, x1 RS-232/485 (default is RS-485)

Connectors: Euro Terminal (Tyco Electronics 1-284539-0)

Mating Connector: (Tyco Electronics 1-284510-0)

Pin #	Signal Name	Pin-Out
COM1 (RS-232)		
1	TXD	
2	RXD	
3	RTS	**Figure 107: Serial Port Pinouts IC755CxS10CDx, IC755CxS12CDA and IC755CxS15CDx**
4	CTS	
5	SGND	
COM2 (RS-232/RS-485[5])		
1	TXD/TXD$^+$/DATA$^+$	
2	RXD/TXD-/DATA-	
3	RTS/RXD$^+$/DATA$^+$	
4	CTS/RXD-/DATA-	
5	SG	

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[5] *In RS-485 mode, pins 1-3 are interconnected and pins 2-4 are interconnected.*

General Contact Information

Home link: http://www.emerson.com/industrial-automation-controls

Knowledge Base: https://www.emerson.com/industrial-automation-controls/support

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Any escalation request should be sent to: mas.sfdcescalation@emerson.com

Note: If the product is purchased through an Authorized Channel Partner, please contact the seller directly for any support.

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